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- AANNSTAD, PER A. Interstellar Polarization, Grain Growth, and Alignment: Erratum. *Per A. Aannestad and J. Mayo Greenberg*. **278**, 893, 35-E11 (1984) (Orig. paper in **272**, 551, 107-G6)
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- ANDERSON, P. W. Vortex Creep and the Internal Temperature of Neutron Stars. II. Vela Pulsar. *M. A. Alpar, P. W. Anderson, D. Pines, and J. Shaham*. **278**, 791, 34-E5 (1984)
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- BEER, H. The s -Process Branching at ^{151}Sm . H. Beer, F. Käppeler, K. Yokoi, and K. Takahashi. **278**, 388, 28-B11 (1984)
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- BENTLEY, A. F. An Infrared Spatial Study of the Planetary Nebula BD +30°3639. A. F. Bentley, J. A. Hackwell, G. L. Grasdale, and R. D. Gehrz. **278**, 665, 33-B14 (1984)
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- BRAUN, A. On the Mechanism of Decelerating the Gas Infalling onto Magnetized Neutron Stars. A. Braun and R. Z. Yahel. **278**, 349, 27-F13 (1984)
- BRIDGES, TERRY J. Theoretical Zero-Age Main Sequences Applied to the Pleiades, Praesepe, and Hyades Star Clusters. Don A. Vandenberg and Terry J. Bridges. **278**, 679, 33-C14 (1984)
- BRODIE, JEAN. Optical Observations of the BL Lacertae Object 2155-304 and Implications regarding the X-Ray Absorption Feature at 600-700 eV. Stuart Bowyer, Jean Brodie, John T. Clarke, and J. Patrick Henry. **278**, L103, 36-B7 (1984)
- BRUECKNER, G. E. HRTS II EUV Observations of a Solar Ephemeral Region. Robert Roussel-Dupré, Jay Wrathall, K. R. Nicolas, J. D. F. Bartoe, and G. E. Brueckner. **278**, 428, 28-E9 (1984)
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- BURKE, B. F. 5 Gigahertz Structure and Optical Identifications of Weak Extragalactic Radio Sources. C. R. Lawrence, C. L. Bennett, J. N. Hewitt, and B. F. Burke. **278**, L95, 36-A12 (1984)
- BURNS, J. O. What Bends 3C 465? J. A. Eilek, J. O. Burns, C. P. O'Dea, and F. N. Owen. **278**, 37, 24-D6 (1984)
- BYRAM, E. T. Millisecond Variability of Cygnus X-1. J. F. Meekins, K. S. Wood, R. L. Hedler, E. T. Byram, D. J. Yentis, T. A. Chubb, and H. Friedman. **278**, 288, 27-B6 (1984)
- CALDWELL, NELSON. Two Early-Type Galaxies with Ionized Gas Disks. Nelson Caldwell. **278**, 96, 25-A12 (1984)
- CANIZARES, C. R. The Mass Profile and Gas Content of M87. G. C. Stewart, C. R. Canizares, A. C. Fabian, and P. E. J. Nulsen. **278**, 536, 31-G1 (1984)
- CANIZARES, CLAUDE R. SAS 3 Observations of Cygnus X-1: The Intensity Dips. Ronald A. Remillard and Claude R. Canizares. **278**, 761, 34-C3 (1984)
- A Sharp X-Ray Absorption Feature in the BL Lacertae Object PKS 2155-304. Claude R. Canizares and John Kruper. **278**, L99, 36-B2 (1984)
- CARNEY, BRUCE W. The Baade-Wesselink Method and the Distances to RR Lyrae Stars. I. The Field Star VY Serpentis. Bruce W. Carney and David W. Latham. **278**, 241, 26-E11 (1984)
- CARSWELL, ROBERT F. The Absorption Line Profiles in Q1101-264. Robert F. Carswell, Donald C. Morton, Malcolm G. Smith, Alan N. Stockton, David A. Turnshek, and Ray J. Weymann. **278**, 486, 36-C6 (1984)
- CASH, WEBSTER, JR. Einstein Observations of X-Ray Emission from A Stars: Erratum. L. Golub, F. R. Harnden, C. W. Maxson, R. Rosner, G. S. Vaiana, Webster Cash, Jr., and Theodore P. Snow, Jr. **278**, 456, 28-G12 (1984) (Orig. paper in **271**, 264, 90-G11)
- CASSAR, L. Star Formation in the M8E Region. M. Simon, L. Cassar, M. Felli, J. Fischer, M. Massi, and D. Sanders. **278**, 170, 25-G8 (1984)
- CHANMUGAM, G. Polarized Radiation from Hot Plasmas and Applications to AM Herculis Binaries. II. Effect of Collisions and Thomson Scattering. P. E. Barrett and G. Chanmugam. **278**, 298, 27-C2 (1984)
- CHENG, CHUNG-CHIEH. Correlated Observations of Impulsive UV and Hard X-Ray Bursts in Solar Flares from the Solar Maximum Mission. Chung-Chieh Cheng, Einar Tandberg-Hanssen, and L. E. Orwig. **278**, 853, 35-B11 (1984)
- CHESTER, T. J. Observations of Quasi-coherent Soft X-Ray Oscillations in U Geminorum and SS Cygni. F. A. Córdova, T. J. Chester, K. O. Mason, S. M. Kahn, and G. P. Garmire. **278**, 739, 34-A9 (1984)
- CHEVALIER, R. A. Evolution of Pulsar-driven Supernova Remnants. S. P. Reynolds and R. A. Chevalier. **278**, 630, 32-G7 (1984)
- CHUBB, T. A. Millisecond Variability of Cygnus X-1. J. F. Meekins, K. S. Wood, R. L. Hedler, E. T. Byram, D. J. Yentis, T. A. Chubb, and H. Friedman. **278**, 288, 27-B6 (1984)
- CLARKE, JOHN T. Optical Observations of the BL Lacertae Object 2155-304 and Implications regarding the X-Ray Absorption Feature at 600-700 eV. Stuart Bowyer, Jean Brodie, John T. Clarke, and J. Patrick Henry. **278**, L103, 36-B7 (1984)
- CLEGG, P. E. The Infrared Astronomical Satellite (IRAS) Mission. G. Neugebauer, H. J. Habing, R. van Duinen, H. H. Aumann, B. Baud, C. A. Beichman, D. A. Beintema, N. Boggess, P. E. Clegg, T. de Jong, J. P. Emerson, T. N. Gautier, F. C. Gillett, S. Harris, M. G. Hauser, J. R. Houck, R. E. Jennings, F. J. Low, P. L. Marsden, G. Miley, F. M. Olson, S. R. Pottasch, E. Raimond, M. Rowan-Robinson, B. T. Soifer, R. G. Walker, P. R. Wesselius, and E. Young. **278**, L1, 29-C3 (1984)
- The IRAS Minisurvey. M. Rowan-Robinson, P. E. Clegg, C. A. Beichman, G. Neugebauer, B. T. Soifer, H. H. Aumann, D. A. Beintema, N. Boggess, J. P. Emerson, T. N. Gautier, F. C. Gillett, M. G. Hauser, J. R. Houck, F. J. Low, and R. G. Walker. **278**, L7, 29-C9 (1984)
- Infrared Emission from M31. H. J. Habing, G. Miley, E. Young, B. Baud, N. Boggess, P. E. Clegg, T. de Jong, S. Harris, E. Raimond, M. Rowan-Robinson, and B. T. Soifer. **278**, L59, 30-A1 (1984)
- Unidentified Point Sources in the IRAS Minisurvey. J. R. Houck, B. T. Soifer, G. Neugebauer, C. A. Beichman, H. H. Aumann, P. E. Clegg, F. C. Gillett, H. J. Habing, M. G. Hauser, F. J. Low, G. Miley, M. Rowan-Robinson, and R. G. Walker. **278**, L63, 30-A7 (1984)
- IRAS Observations of Shapley-Ames Galaxies. T. de Jong, P. E. Clegg, B. T. Soifer, M. Rowan-Robinson, H. J. Habing, J. R. Houck, H. H. Aumann, and E. Raimond. **278**, L67, 30-C1 (1984)
- Infrared Galaxies in the IRAS Minisurvey. B. T. Soifer, M. Rowan-Robinson, J. R. Houck, T. de Jong, G. Neugebauer, H. H. Aumann, C. A. Beichman, N. Boggess, P. E. Clegg, J. P. Emerson, F. C. Gillett, H. J. Habing, M. G. Hauser, F. J. Low, G. Miley, and E. Young. **278**, L71, 30-C5 (1984)
- The Infrared Properties of Galaxy Clusters: IRAS Observations of the Hercules Cluster (Abell 2151). E. Young, B. T. Soifer, F. J. Low, G. Neugebauer, M. Rowan-Robinson, G. Miley, P. E. Clegg, T. de Jong, and T. N. Gautier. **278**, L75, 30-C9 (1984)
- A 25 Micron Component in 3C 390.3. G. Miley, G. Neugebauer, P. E. Clegg, S. Harris, M. Rowan-Robinson, B. T. Soifer, and E. Young. **278**, L79, 30-C14 (1984)
- IRAS Observations of Radio-quiet and Radio-loud Quasars. G. Neugebauer, B. T. Soifer, G. Miley, E. Young, C. A. Beichman, P. E. Clegg, H. J. Habing, S. Harris, F. J. Low, and M. Rowan-Robinson. **278**, L83, 30-D2 (1984)
- CLINE, T. L. The Gamma-Ray Spectrum of Centaurus A: A High-Resolution Observation between 70 keV and 8 MeV. N. Gehrels, T. L. Cline, B. J. Teegarden, W. S. Paciesas, J. Tueller, Ph. Durouchoux, and J. M. Hameury. **278**, 112, 25-C4 (1984)
- COHEN, MARTIN. Far-Infrared Studies of Herbig-Haro Objects and Their Exciting Stars. Martin Cohen, Paul M. Harvey, Richard D. Schwartz, and Bruce A. Wilking. **278**, 671, 33-C6 (1984)
- CONTI, PETER S. Absolute Spectrophotometry of Wolf-Rayet Stars from 1200 to 7000 Å: A Cautionary Tale. Catharine D. Garmany, Philip Massey, and Peter S. Conti. **278**, 233, 26-E3 (1984)
- CÓRDOVA, F. A. Observations of Quasi-coherent Soft X-Ray Oscillations in U Geminorum and SS Cygni. F. A. Córdova, T. J. Chester, K. O. Mason, S. M. Kahn, and G. P. Garmire. **278**, 739, 34-A9 (1984)
- CORSI, CARLO E. The Population Structure of the Large Magellanic Cloud Bar. Eduardo Hardy, Roberto Buonoanno, Carlo E. Corsi,

- Kenneth A. Janes, and Robert A. Schommer. **278**, 592, 32-D3 (1984)
- CRANNELL, C. J. The High-Energy X-Ray Spectrum of Centaurus XR-3 Observed from *OSO 8*. J. F. Dolan, C. J. Crannell, B. R. Dennis, K. J. Frost, and L. E. Orwig. **278**, 266, 26-G8 (1984)
- CRAVENS, T. E. The Friable Sponge Model of a Cometary Nucleus. M. Horanyi, T. I. Gombosi, T. E. Cravens, A. Korosmezev, K. Kecs-kemety, A. F. Nagy, and K. Szego. **278**, 449, 28-G5 (1984)
- CUDWORTH, KYLE M. Chemical Abundances in a New Halo Planetary Nebula. Timothy Barker and Kyle M. Cudworth. **278**, 610, 32-E8 (1984)
- DA COSTA, G. S. Stellar Populations in Local Group Dwarf Elliptical Galaxies. II. NGC 205. Jeremy Mould, Jerome Kristian, and G. S. Da Costa. **278**, 575, 32-B12 (1984)
- DARBRO, W. X-Ray Observations of X Persei. M. C. Weisskopf, R. F. Elsner, W. Darbro, S. Naranan, V. J. Weisskopf, A. Williams, N. E. White, J. E. Grindlay, and P. G. Sutherland. **278**, 711, 33-F5 (1984)
- DAVIES, J. Observations of Comet IRAS-Araki-Alcock 1983d. R. G. Walker, H. H. Aumann, J. Davies, S. Green, T. de Jong, J. R. Houck, and B. T. Soifer. **278**, L11, 29-C14 (1984)
- DEARBORN, D. S. P. Brightness Variations Caused by Surface Magnetic Fields in Pre-Main-Sequence Stars. I. Appenzeller and D. S. P. Dearborn. **278**, 689, 33-D10 (1984)
- DE BERNARDIS, P. Diffuse Galactic and Extragalactic Radiation in the Far-Infrared. P. de Bernardis, S. Masi, B. Melchiorri, F. Melchiorri, and G. Moreno. **278**, 150, 25-F2 (1984)
- DECKER, R. B. Estimate of Cosmic-Ray Latitudinal Gradient in 1981-1982. R. B. Decker, S. M. Krimigis, and D. Venkatesan. **278**, L119, 36-C7 (1984)
- DEGIOIA-EASTWOOD, K. Massive Star Formation in NGC 6946. K. DeGioia-Eastwood, G. L. Grasdale, S. E. Strom, and K. M. Strom. **278**, 564, 32-B1 (1984)
- DE JONG, T. The Infrared Astronomical Satellite (IRAS) Mission. G. Neugebauer, H. J. Habing, R. van Duinen, H. H. Aumann, B. Baud, C. A. Beichman, D. A. Beintema, N. Boggess, P. E. Clegg, T. de Jong, J. P. Emerson, T. N. Gautier, F. C. Gillett, S. Harris, M. G. Hauser, J. R. Houck, R. E. Jennings, F. J. Low, P. L. Marsden, G. Miley, F. M. Olmon, S. R. Pottasch, E. Raimond, M. Rowan-Robinson, B. T. Soifer, R. G. Walker, P. R. Wesselius, and E. Young. **278**, L1, 29-C3 (1984)
- Observations of Comet IRAS-Araki-Alcock 1983d. R. G. Walker, H. H. Aumann, J. Davies, S. Green, T. de Jong, J. R. Houck, and B. T. Soifer. **278**, L11, 29-C14 (1984)
- Discovery of a Shell around Alpha Lyrae. H. H. Aumann, F. C. Gillett, C. A. Beichman, T. de Jong, J. R. Houck, F. J. Low, G. Neugebauer, R. G. Walker, and P. R. Wesselius. **278**, L23, 29-D12 (1984)
- Far-Infrared Observations of the Crab Nebula. P. L. Marsden, F. C. Gillett, R. E. Jennings, J. P. Emerson, T. de Jong, and F. M. Olmon. **278**, L29, 29-E3 (1984)
- IRAS Spectra of Planetary Nebulae. S. R. Pottasch, D. A. Beintema, E. Raimond, B. Baud, R. van Duinen, H. J. Habing, J. R. Houck, T. de Jong, R. E. Jennings, F. M. Olmon, and P. R. Wesselius. **278**, L33, 29-E7 (1984)
- IRAS Observations of OH/IR Stars. F. M. Olmon, B. Baud, H. J. Habing, T. de Jong, S. Harris, and S. R. Pottasch. **278**, L41, 29-E13 (1984)
- Infrared Emission from M31. H. J. Habing, G. Miley, E. Young, B. Baud, N. Boggess, P. E. Clegg, T. de Jong, S. Harris, E. Raimond, M. Rowan-Robinson, and B. T. Soifer. **278**, L59, 30-A1 (1984)
- IRAS Observations of Shapley-Ames Galaxies. T. de Jong, P. E. Clegg, B. T. Soifer, M. Rowan-Robinson, H. J. Habing, J. R. Houck, H. H. Aumann, and E. Raimond. **278**, L67, 30-C1 (1984)
- Infrared Galaxies in the IRAS Minisurvey. B. T. Soifer, M. Rowan-Robinson, J. R. Houck, T. de Jong, G. Neugebauer, H. H. Aumann, C. A. Beichman, N. Boggess, P. E. Clegg, J. P. Emerson, F. C. Gillett, H. J. Habing, M. G. Hauser, F. J. Low, G. Miley, and E. Young. **278**, L71, 30-C5 (1984)
- The Infrared Properties of Galaxy Clusters: IRAS Observations of the Hercules Cluster (Abell 2151). E. Young, B. T. Soifer, F. J. Low, G. Neugebauer, M. Rowan-Robinson, G. Miley, P. E. Clegg, T. de Jong, and T. N. Gautier. **278**, L75, 30-C9 (1984)
- DE LOORE, C. Absolute Dimensions of Unevolved O Type Close Binaries. C. Doom and C. de Loore. **278**, 695, 33-E2 (1984)
- DENNIS, B. R. The High-Energy X-Ray Spectrum of Centaurus XR-3 Observed from *OSO 8*. J. F. Dolan, C. J. Crannell, B. R. Dennis, K. J. Frost, and L. E. Orwig. **278**, 266, 26-G8 (1984)
- DENT, WILLIAM A. The 20 Year Spectral Evolution of the Radio Nucleus of NGC 1275. Christopher P. O'Dea, William A. Dent, and Thomas J. Balonek. **278**, 89, 25-A5 (1984)
- DISTLER, J. On the Topological Stability of Magnetostatic Equilibria. K. C. Tsinganos, J. Distler, and R. Rosner. **278**, 409, 28-D4 (1984)
- DOBSON, C. A. The *HEAO 1* (A4) Catalog of High-Energy X-Ray Sources (Abstract of Paper in 1984 April Suppl.). A. M. Levine, F. L. Lang, W. H. G. Lewin, F. A. Primini, C. A. Dobson, J. P. Doty, J. A. Hoffman, S. K. Howe, A. Scheepmaker, W. A. Wheaton, J. L. Matteson, R. E. Rothschild, and L. E. Peterson. **278**, 895, 35-E13 (1984)
- D'ODORICO, S. *IUE* and Ground-based Observations of the Hubble-Sandage Variables in M31 and M33. R. M. Humphreys, C. Blaha, S. D'Odorico, T. R. Gull, and P. Benvenuti. **278**, 124, 25-D2 (1984)
- DOIRON, D. J. VLBI Observations of the RS Canum Venaticorum Binary Systems UX Arietis and HR 1099 at 1.65 GHz. R. L. Mutel, D. J. Doiron, J. F. Lestrade, and R. B. Phillips. **278**, 220, 26-D4 (1984)
- DOLAN, J. F. The High-Energy X-Ray Spectrum of Centaurus XR-3 Observed from *OSO 8*. J. F. Dolan, C. J. Crannell, B. R. Dennis, K. J. Frost, and L. E. Orwig. **278**, 266, 26-G8 (1984)
- DOOM, C. Absolute Dimensions of Unevolved O Type Close Binaries. C. Doom and C. de Loore. **278**, 695, 33-E2 (1984)
- DOTY, J. P. The *HEAO 1* (A4) Catalog of High-Energy X-Ray Sources (Abstract of Paper in 1984 April Suppl.). A. M. Levine, F. L. Lang, W. H. G. Lewin, F. A. Primini, C. A. Dobson, J. P. Doty, J. A. Hoffman, S. K. Howe, A. Scheepmaker, W. A. Wheaton, J. L. Matteson, R. E. Rothschild, and L. E. Peterson. **278**, 895, 35-E13 (1984)
- DRILLING, J. S. Spectrophotometry of Extreme Helium Stars: Ultraviolet Fluxes and Effective Temperatures. J. S. Drilling, D. Schönberner, U. Heber, and A. E. Lynas-Gray. **278**, 224, 26-D8 (1984)
- Effective Temperatures and Luminosities of Very Hot O Type Subdwarfs. D. Schönberner and J. S. Drilling. **278**, 702, 33-E9 (1984)
- DUNCAN, ROBERT C. Neutrino Emissivity of Interacting Quark Matter in Neutron Stars. II. Finite Neutrino Momentum Effects. Robert C. Duncan, Stuart L. Shapiro, and Ira Wasserman. **278**, 806, 34-F6 (1984)
- DUPREE, A. K. *IUE* Observations of Centaurus X-4 during the 1979 May Outburst. William P. Blair, John C. Raymond, A. K. Dupree, Chi-Chao Wu, Albert V. Holm, and Jean H. Swank. **278**, 270, 27-A1 (1984)
- DUROUCHOUX, PH. The Gamma-Ray Spectrum of Centaurus A: A High-Resolution Observation between 70 keV and 8 MeV. N. Gehrels, T. L. Cline, B. J. Teegarden, W. S. Pucias, J. Tueller, Ph. Durouchoux, and J. M. Hameury. **278**, 112, 25-C4 (1984)
- DURRANCE, S. T. *IUE* Observations of Longitudinal and Temporal Variations in the Jovian Auroral Emission. T. E. Skinner, S. T. Durrance, P. D. Feldman, and H. W. Moos. **278**, 441, 28-F11 (1984)
- EARL, JAMES A. The Effect of Convection upon Charged Particle Transport in Random Magnetic Fields. James A. Earl. **278**, 825, 34-G11 (1984)
- EILEK, J. A. What Bends 3C 465? J. A. Eilek, J. O. Burns, C. P. O'Dea, and F. N. Owen. **278**, 37, 24-D6 (1984)
- ELSNER, R. F. Accretion by Magnetic Neutron Stars. II. Plasma Entry into the Magnetosphere via Diffusion, Polar Cusps, and Magnetic Field Reconnection. R. F. Elsner and F. K. Lamb. **278**, 326, 27-E4 (1984)
- X-Ray Observations of X Persei. M. C. Weisskopf, R. F. Elsner, W. Darbro, S. Naranan, V. J. Weisskopf, A. Williams, N. E. White, J. E. Grindlay, and P. G. Sutherland. **278**, 711, 33-F5 (1984)
- EMERSON, J. P. The Infrared Astronomical Satellite (IRAS) Mission. G. Neugebauer, H. J. Habing, R. van Duinen, H. H. Aumann, B. Baud, C. A. Beichman, D. A. Beintema, N. Boggess, P. E. Clegg, T. de Jong, J. P. Emerson, T. N. Gautier, F. C. Gillett, S. Harris, M. G. Hauser, J. R. Houck, R. E. Jennings, F. J. Low, P. L. Marsden, G. Miley, F. M. Olmon, S. R. Pottasch, E. Raimond, M. Rowan-Robinson, B. T. Soifer, R. G. Walker, P. R. Wesselius, and E. Young. **278**, L1, 29-C3 (1984)
- The IRAS Minisurvey. M. Rowan-Robinson, P. E. Clegg, C. A. Beich-

- man, G. Neugebauer, B. T. Soifer, H. H. Aumann, D. A. Beintema, N. Boggess, J. P. Emerson, T. N. Gautier, F. C. Gillett, M. G. Hauser, J. R. Houck, F. J. Low, and R. G. Walker. **278**, L7, 29-C9 (1984)
- IRAS Observations of the Diffuse Infrared Background. M. G. Hauser, F. C. Gillett, F. J. Low, T. N. Gautier, C. A. Beichman, G. Neugebauer, H. H. Aumann, B. Baud, N. Boggess, J. P. Emerson, J. R. Houck, B. T. Soifer, and R. G. Walker. **278**, L15, 29-D4 (1984)
- Infrared Cirrus: New Components of the Extended Infrared Mission. F. J. Low, D. A. Beintema, T. N. Gautier, F. C. Gillett, C. A. Beichman, G. Neugebauer, E. Young, H. H. Aumann, N. Boggess, J. P. Emerson, H. J. Habing, M. G. Hauser, J. R. Houck, M. Rowan-Robinson, B. T. Soifer, R. G. Walker, and P. R. Wesselius. **278**, L19, 29-D8 (1984)
- Far-Infrared Observations of the Crab Nebula. P. L. Marsden, F. C. Gillett, R. E. Jennings, J. P. Emerson, T. de Jong, and F. M. Olmon. **278**, L29, 29-E3 (1984)
- The Formation of Solar Type Stars: IRAS Observations of the Dark Cloud Barnard 5. C. A. Beichman, R. E. Jennings, J. P. Emerson, B. Baud, S. Harris, M. Rowan-Robinson, H. H. Aumann, T. N. Gautier, F. C. Gillett, H. J. Habing, P. L. Marsden, G. Neugebauer, and E. Young. **278**, L45, 29-F3 (1984)
- IRAS Observations near Young Objects with Bipolar Outflows: L1551 and HH 46-47. J. P. Emerson, S. Harris, R. E. Jennings, C. A. Beichman, B. Baud, D. A. Beintema, P. L. Marsden, and P. R. Wesselius. **278**, L49, 29-F7 (1984)
- High-Sensitivity IRAS Observations of the Chamaeleon I Dark Cloud. B. Baud, E. Young, C. A. Beichman, D. A. Beintema, J. P. Emerson, H. J. Habing, S. Harris, R. E. Jennings, P. L. Marsden, and P. R. Wesselius. **278**, L53, 29-F12 (1984)
- IRAS Images of the Galactic Center. T. N. Gautier, M. G. Hauser, C. A. Beichman, F. J. Low, G. Neugebauer, M. Rowan-Robinson, H. H. Aumann, N. Boggess, J. P. Emerson, S. Harris, J. R. Houck, R. E. Jennings, and P. L. Marsden. **278**, L57, 29-G4 (1984)
- Infrared Galaxies in the IRAS Minisurvey. B. T. Soifer, M. Rowan-Robinson, J. R. Houck, T. de Jong, G. Neugebauer, H. H. Aumann, C. A. Beichman, N. Boggess, P. E. Clegg, J. P. Emerson, F. C. Gillett, H. J. Habing, M. G. Hauser, F. J. Low, G. Miley, and E. Young. **278**, L71, 30-C5 (1984)
- ENDO, YASUKI. Laboratory Millimeter-Wave Spectrum of Iron Monoxide, FeO. Yasuki Endo, Shuji Saito, and Eizi Hirota. **278**, L131, 36-D13 (1984)
- EVENSEN, K. M. The Direct Measurement of the $3^3P_2-3^3P_1$ Fine-Structure Interval and the g -Factor of Atomic Silicon by Laser Magnetic Resonance. Massimo Inguscio, K. M. Evensen, Virgilio Beltrán-López, and Eugenio Ley-Koo. **278**, L127, 36-D9 (1984)
- FABIAN, A. C. The Mass Profile and Gas Content of M87. G. C. Stewart, C. R. Canizares, A. C. Fabian, and P. E. J. Nulsen. **278**, 536, 31-G1 (1984)
- FELDMAN, P. D. IUE Observations of Longitudinal and Temporal Variations in the Jovian Auroral Emission. T. E. Skinner, S. T. Durrance, P. D. Feldman, and H. W. Moos. **278**, 441, 28-F11 (1984)
- FELLI, M. Star Formation in the M8E Region. M. Simon, L. Cassar, M. Felli, J. Fischer, M. Massi, and D. Sanders. **278**, 170, 25-G8 (1984)
- FERLAND, G. J. The Line Continuum Luminosity Ratio in Active Galactic Nuclei: Or, On the "Baldwin Effect". R. Mushotzky and G. J. Ferland. **278**, 558, 32-A9 (1984)
- FISCHER, J. Star Formation in the M8E Region. M. Simon, L. Cassar, M. Felli, J. Fischer, M. Massi, and D. Sanders. **278**, 170, 25-G8 (1984)
- FISHER, R. R. The Corona near the Time of the 1983 June 11 Total Solar Eclipse. D. G. Sime, R. R. Fisher, M. K. McCabe, and D. L. Mickey. **278**, L123, 36-C11 (1984)
- FLOWER, PHILLIP J. Ages of Intermediate-Age Magellanic Cloud Star Clusters. Phillip J. Flower. **278**, 582, 32-C7 (1984)
- FREEMAN, K. C. The Vertical Velocity Dispersion of the Stars in the Disks of Two Spiral Galaxies. P. C. van der Kruit and K. C. Freeman. **278**, 81, 24-G11 (1984)
- FRIED, J. Host Galaxies of Quasars and Their Association with Galaxy Clusters. T. Gehren, J. Fried, P. A. Wehinger, and S. Wyckoff. **278**, 11, 24-B2 (1984)
- FRIEDMAN, H. Millisecond Variability of Cygnus X-1. J. F. Meekins, K. S. Wood, R. L. Hedler, E. T. Byram, D. J. Yentis, T. A. Chubb, and H. Friedman. **278**, 288, 27-B6 (1984)
- FROGEL, JAY A. The Stellar Content and Metallicity of the NGC 5128 Globular Cluster. Jay A. Frogel. **278**, 119, 25-C11 (1984)
- FROST, K. J. The High-Energy X-Ray Spectrum of Centaurus XR-3 Observed from OSO 8. J. F. Dolan, C. J. Crannell, B. R. Dennis, K. J. Frost, and L. E. Orwig. **278**, 266, 26-G8 (1984)
- FUJIMOTO, MASAYUKI Y. Thermal Evolution of Accreting Neutron Stars. Masayuki Y. Fujimoto, Tomoyuki Hanawa, Icko Iben, Jr., and M. B. Richardson. **278**, 813, 34-F13 (1984)
- GALLOWAY, D. J. Self-consistent Models for Coulomb-heated X-Ray Pulsar Atmospheres. A. K. Harding, P. Mészáros, J. G. Kirk, and D. J. Galloway. **278**, 369, 28-A6 (1984)
- GARMANY, CATHARINE D. Absolute Spectrophotometry of Wolf-Rayet Stars from 1200 to 7000 Å: A Cautionary Tale. Catharine D. Garmany, Philip Massey, and Peter S. Conti. **278**, 233, 26-E3 (1984)
- GARMIRE, G. P. Observations of Quasi-coherent Soft X-Ray Oscillations in U Geminorum and SS Cygni. F. A. Córdova, T. J. Chester, K. O. Mason, S. M. Kahn, and G. P. Garmire. **278**, 739, 34-A9 (1984)
- GAUTIER, T. N. The Infrared Astronomical Satellite (IRAS) Mission. G. Neugebauer, H. J. Habing, R. van Duinen, H. H. Aumann, B. Baud, C. A. Beichman, D. A. Beintema, N. Boggess, P. E. Clegg, T. de Jong, J. P. Emerson, T. N. Gautier, F. C. Gillett, S. Harris, M. G. Hauser, J. R. Houck, R. E. Jennings, F. J. Low, P. L. Marsden, G. Miley, F. M. Olmon, S. R. Pottasch, E. Raimond, M. Rowan-Robinson, B. T. Soifer, R. G. Walker, P. R. Wesselius, and E. Young. **278**, L1, 29-C3 (1984)
- The IRAS Minisurvey. M. Rowan-Robinson, P. E. Clegg, C. A. Beichman, G. Neugebauer, B. T. Soifer, H. H. Aumann, D. A. Beintema, N. Boggess, J. P. Emerson, T. N. Gautier, F. C. Gillett, M. G. Hauser, J. R. Houck, F. J. Low, and R. G. Walker. **278**, L7, 29-C9 (1984)
- IRAS Observations of the Diffuse Infrared Background. M. G. Hauser, F. C. Gillett, F. J. Low, T. N. Gautier, C. A. Beichman, G. Neugebauer, H. H. Aumann, B. Baud, N. Boggess, J. P. Emerson, J. R. Houck, B. T. Soifer, and R. G. Walker. **278**, L15, 29-D4 (1984)
- Infrared Cirrus: New Components of the Extended Infrared Mission. F. J. Low, D. A. Beintema, T. N. Gautier, F. C. Gillett, C. A. Beichman, G. Neugebauer, E. Young, H. H. Aumann, N. Boggess, J. P. Emerson, H. J. Habing, M. G. Hauser, J. R. Houck, M. Rowan-Robinson, B. T. Soifer, R. G. Walker, and P. R. Wesselius. **278**, L19, 29-D8 (1984)
- The Formation of Solar Type Stars: IRAS Observations of the Dark Cloud Barnard 5. C. A. Beichman, R. E. Jennings, J. P. Emerson, B. Baud, S. Harris, M. Rowan-Robinson, H. H. Aumann, T. N. Gautier, F. C. Gillett, H. J. Habing, P. L. Marsden, G. Neugebauer, and E. Young. **278**, L45, 29-F3 (1984)
- IRAS Images of the Galactic Center. T. N. Gautier, M. G. Hauser, C. A. Beichman, F. J. Low, G. Neugebauer, M. Rowan-Robinson, H. H. Aumann, N. Boggess, J. P. Emerson, S. Harris, J. R. Houck, R. E. Jennings, and P. L. Marsden. **278**, L57, 29-G4 (1984)
- The Infrared Properties of Galaxy Clusters: IRAS Observations of the Hercules Cluster (Abell 2151). E. Young, B. T. Soifer, F. J. Low, G. Neugebauer, M. Rowan-Robinson, G. Miley, P. E. Clegg, T. de Jong, and T. N. Gautier. **278**, L75, 30-C9 (1984)
- GEHRELS, N. The Gamma-Ray Spectrum of Centaurus A: A High-Resolution Observation between 70 keV and 8 MeV. N. Gehrels, T. L. Cline, B. J. Teegarden, W. S. Paciesas, J. Tueller, Ph. Durouchoux, and J. M. Hameury. **278**, 112, 25-C4 (1984)
- GEHREN, T. Host Galaxies of Quasars and Their Association with Galaxy Clusters. T. Gehren, J. Fried, P. A. Wehinger, and S. Wyckoff. **278**, 11, 24-B2 (1984)
- GEHRZ, R. D. An Infrared Spatial Study of the Planetary Nebula BD +30°3639. A. F. Bentley, J. A. Hackwell, G. L. Grasdale, and R. D. Gehrz. **278**, 665, 33-B14 (1984)
- GELLER, MARGARET J. Constraints on the Anisotropy of the Velocity Dispersion of the Coma Cluster. Carlton Pryor and Margaret J. Geller. **278**, 457, 31-A5 (1984)
- GILLETT, F. C. The Infrared Astronomical Satellite (IRAS) Mission. G. Neugebauer, H. J. Habing, R. van Duinen, H. H. Aumann, B. Baud, C. A. Beichman, D. A. Beintema, N. Boggess, P. E. Clegg, T. de Jong, J. P. Emerson, T. N. Gautier, F. C. Gillett, S. Harris, M. G. Hauser, J. R. Houck, R. E. Jennings, F. J. Low, P. L. Marsden, G. Miley, F. M. Olmon, S. R. Pottasch, E. Raimond, M.

- Rowan-Robinson, B. T. Soifer, R. G. Walker, P. R. Wesselius, and E. Young. **278**, L1, 29-C3 (1984)
- The IRAS Minisurvey. M. Rowan-Robinson, P. E. Clegg, C. A. Beichman, G. Neugebauer, B. T. Soifer, H. H. Aumann, D. A. Beintema, N. Boggess, J. P. Emerson, T. N. Gautier, F. C. Gillett, M. G. Hauser, J. R. Houck, F. J. Low, and R. G. Walker. **278**, L7, 29-C9 (1984)
- IRAS Observations of the Diffuse Infrared Background. M. G. Hauser, F. C. Gillett, F. J. Low, T. N. Gautier, C. A. Beichman, G. Neugebauer, H. H. Aumann, B. Baud, N. Boggess, J. P. Emerson, J. R. Houck, B. T. Soifer, and R. G. Walker. **278**, L15, 29-D4 (1984)
- Infrared Cirrus: New Components of the Extended Infrared Mission. F. J. Low, D. A. Beintema, T. N. Gautier, F. C. Gillett, C. A. Beichman, G. Neugebauer, E. Young, H. H. Aumann, N. Boggess, J. P. Emerson, H. J. Habing, M. G. Hauser, J. R. Houck, M. Rowan-Robinson, B. T. Soifer, R. G. Walker, and P. R. Wesselius. **278**, L19, 29-D8 (1984)
- Discovery of a Shell around Alpha Lyrae. H. H. Aumann, F. C. Gillett, C. A. Beichman, T. de Jong, J. R. Houck, F. J. Low, G. Neugebauer, R. G. Walker, and P. R. Wesselius. **278**, L23, 29-D12 (1984)
- Far-Infrared Observations of the Crab Nebula. P. L. Marsden, F. C. Gillett, R. E. Jennings, J. P. Emerson, T. de Jong, and F. M. Olmon. **278**, L29, 29-E3 (1984)
- The Formation of Solar Type Stars: IRAS Observations of the Dark Cloud Barnard 5. C. A. Beichman, R. E. Jennings, J. P. Emerson, B. Baud, S. Harris, M. Rowan-Robinson, H. H. Aumann, T. N. Gautier, F. C. Gillett, H. J. Habing, P. L. Marsden, G. Neugebauer, and E. Young. **278**, L45, 29-F3 (1984)
- Unidentified Point Sources in the IRAS Minisurvey. J. R. Houck, B. T. Soifer, G. Neugebauer, C. A. Beichman, H. H. Aumann, P. E. Clegg, F. C. Gillett, H. J. Habing, M. G. Hauser, F. J. Low, G. Miley, M. Rowan-Robinson, and R. G. Walker. **278**, L63, 30-A7 (1984)
- Infrared Galaxies in the IRAS Minisurvey. B. T. Soifer, M. Rowan-Robinson, J. R. Houck, T. de Jong, G. Neugebauer, H. H. Aumann, C. A. Beichman, N. Boggess, P. E. Clegg, J. P. Emerson, F. C. Gillett, H. J. Habing, M. G. Hauser, F. J. Low, G. Miley, and E. Young. **278**, L71, 30-C5 (1984)
- GIOMMI, P. X-Ray Variability of Quasars. G. Zamorani, P. Giommi, T. Maccacaro, and H. Tananbaum. **278**, 28, 24-C11 (1984)
- GOLUB, L. Einstein Observations of X-Ray Emission from A Stars: Erratum. L. Golub, F. R. Harnden, C. W. Maxson, R. Rosner, G. S. Vaiana, Webster Cash, Jr., and Theodore P. Snow, Jr. **278**, 456, 28-G12 (1984) (Orig. paper in **271**, 264, 90-G11)
- GOMBOSI, T. I. The Friable Sponge Model of a Cometary Nucleus. M. Horányi, T. I. Gombosi, T. E. Cravens, A. Korosmezy, K. Kecskemeti, A. F. Nagy, and K. Szego. **278**, 449, 28-G5 (1984)
- GOODMAN, JEREMY. Core Collapse with Strong Encounters: Erratum. Jeremy Goodman. **278**, 893, 35-E11 (1984) (Orig. paper in **270**, 700, 85-F10)
- GRASDALEN, G. L. Massive Star Formation in NGC 6946. K. DeGioia-Eastwood, G. L. Grasdale, S. E. Strom, and K. M. Strom. **278**, 564, 32-B1 (1984)
- An Infrared Spatial Study of the Planetary Nebula BD +30°3639. A. F. Bentley, J. A. Hackwell, G. L. Grasdale, and R. D. Gehrz. **278**, 665, 33-B14 (1984)
- GREEN, RICHARD F. An Imaging Survey of Fields around Quasars. I. A Catalog (Abstract of Paper in 1984 April Suppl.). Richard F. Green and H. K. C. Yee. **278**, 895, 35-E13 (1984)
- GREEN, S. Observations of Comet IRAS-Araki-Alcock 1983d. R. G. Walker, H. H. Aumann, J. Davies, S. Green, T. de Jong, J. R. Houck, and B. T. Soifer. **278**, L11, 29-C14 (1984)
- GREENBERG, J. MAYO. Interstellar Polarization, Grain Growth, and Alignment: Erratum. Per A. Aarnestad and J. Mayo Greenberg. **278**, 893, 35-E11 (1984) (Orig. paper in **272**, 551, 107-G6)
- GRINDLAY, J. E. X-Ray Observations of X Persei. M. C. Weisskopf, R. F. Elsner, W. Darbro, S. Naranan, V. J. Weisskopf, A. Williams, N. E. White, J. E. Grindlay, and P. G. Sutherland. **278**, 711, 33-F5 (1984)
- GRINDLAY, JONATHAN E. The Einstein Galactic Plane Survey: Statistical Analysis of the Complete X-Ray Sample. Paul Hertz and Jonathan E. Grindlay. **278**, 137, 25-E3 (1984)
- GULL, T. R. IUE and Ground-based Observations of the Hubble-Sandage Variables in M31 and M33. R. M. Humphreys, C. Blaha, S. D'Odorico, T. R. Gull, and P. Benvenuti. **278**, 124, 25-D2 (1984)
- HABING, H. J. The Infrared Astronomical Satellite (IRAS) Mission. G. Neugebauer, H. J. Habing, R. van Duinen, H. H. Aumann, B. Baud, C. A. Beichman, D. A. Beintema, N. Boggess, P. E. Clegg, T. de Jong, J. P. Emerson, T. N. Gautier, F. C. Gillett, S. Harris, M. G. Hauser, J. R. Houck, R. E. Jennings, F. J. Low, P. L. Marsden, G. Miley, F. M. Olmon, S. R. Pottasch, E. Raimond, M. Rowan-Robinson, B. T. Soifer, R. G. Walker, P. R. Wesselius, and E. Young. **278**, L1, 29-C3 (1984)
- Infrared Cirrus: New Components of the Extended Infrared Mission. F. J. Low, D. A. Beintema, T. N. Gautier, F. C. Gillett, C. A. Beichman, G. Neugebauer, E. Young, H. H. Aumann, N. Boggess, J. P. Emerson, H. J. Habing, M. G. Hauser, J. R. Houck, M. Rowan-Robinson, B. T. Soifer, R. G. Walker, and P. R. Wesselius. **278**, L19, 29-D8 (1984)
- IRAS Spectra of Planetary Nebulae. S. R. Pottasch, D. A. Beintema, E. Raimond, B. Baud, R. van Duinen, H. J. Habing, J. R. Houck, T. de Jong, R. E. Jennings, F. M. Olmon, and P. R. Wesselius. **278**, L33, 29-E7 (1984)
- IRAS Observations of OH/IR Stars. F. M. Olmon, B. Baud, H. J. Habing, T. de Jong, S. Harris, and S. R. Pottasch. **278**, L41, 29-E13 (1984)
- The Formation of Solar Type Stars: IRAS Observations of the Dark Cloud Barnard 5. C. A. Beichman, R. E. Jennings, J. P. Emerson, B. Baud, S. Harris, M. Rowan-Robinson, H. H. Aumann, T. N. Gautier, F. C. Gillett, H. J. Habing, P. L. Marsden, G. Neugebauer, and E. Young. **278**, L45, 29-F3 (1984)
- High-Sensitivity IRAS Observations of the Chamaeleon I Dark Cloud. B. Baud, E. Young, C. A. Beichman, D. A. Beintema, J. P. Emerson, H. J. Habing, S. Harris, R. E. Jennings, P. L. Marsden, and P. R. Wesselius. **278**, L53, 29-F12 (1984)
- Infrared Emission from M31. H. J. Habing, G. Miley, E. Young, B. Baud, N. Boggess, P. E. Clegg, T. de Jong, S. Harris, E. Raimond, M. Rowan-Robinson, and B. T. Soifer. **278**, L59, 30-A1 (1984)
- Unidentified Point Sources in the IRAS Minisurvey. J. R. Houck, B. T. Soifer, G. Neugebauer, C. A. Beichman, H. H. Aumann, P. E. Clegg, F. C. Gillett, H. J. Habing, M. G. Hauser, F. J. Low, G. Miley, M. Rowan-Robinson, and R. G. Walker. **278**, L63, 30-A7 (1984)
- IRAS Observations of Shapley-Ames Galaxies. T. de Jong, P. E. Clegg, B. T. Soifer, M. Rowan-Robinson, H. J. Habing, J. R. Houck, H. H. Aumann, and E. Raimond. **278**, L67, 30-C1 (1984)
- Infrared Galaxies in the IRAS Minisurvey. B. T. Soifer, M. Rowan-Robinson, J. R. Houck, T. de Jong, G. Neugebauer, H. H. Aumann, C. A. Beichman, N. Boggess, P. E. Clegg, J. P. Emerson, F. C. Gillett, H. J. Habing, M. G. Hauser, F. J. Low, G. Miley, and E. Young. **278**, L71, 30-C5 (1984)
- IRAS Observations of Radio-Quiet and Radio-Loud Quasars. G. Neugebauer, B. T. Soifer, G. Miley, E. Young, C. A. Beichman, P. E. Clegg, H. J. Habing, S. Harris, F. J. Low, and M. Rowan-Robinson. **278**, L83, 30-D2 (1984)
- HACKWELL, J. A. An Infrared Spatial Study of the Planetary Nebula BD +30°3639. A. F. Bentley, J. A. Hackwell, G. L. Grasdale, and R. D. Gehrz. **278**, 665, 33-B14 (1984)
- HAMEURY, J. M. The Gamma-Ray Spectrum of Centaurus A: A High-Resolution Observation between 70 keV and 8 MeV. N. Gehrels, T. L. Cline, B. J. Teegarden, W. S. Paciesas, J. Tueller, Ph. Durouchoux, and J. M. Hameury. **278**, 112, 25-C4 (1984)
- HANAWA, TOMOYUKI. Thermal Evolution of Accreting Neutron Stars. Masayuki Y. Fujimoto, Tomoyuki Hanawa, Icko Iben, Jr., and M. B. Richardson. **278**, 813, 34-F13 (1984)
- HARDING, A. K. Self-consistent Models for Coulomb-heated X-Ray Pulsar Atmospheres. A. K. Harding, P. Mészáros, J. G. Kirk, and D. J. Galloway. **278**, 369, 28-A6 (1984)
- HARDY, EDUARDO. The Population Structure of the Large Magellanic Cloud Bar. Eduardo Hardy, Roberto Buonanno, Carlo E. Corsi, Kenneth A. Janes, and Robert A. Schommer. **278**, 592, 32-D3 (1984)
- HARNDEN, F. R. Einstein Observations of X-Ray Emission from A Stars: Erratum. L. Golub, F. R. Harnden, C. W. Maxson, R. Rosner, G. S. Vaiana, Webster Cash, Jr., and Theodore P. Snow, Jr. **278**, 456, 28-G12 (1984) (Orig. paper in **271**, 264, 90-G11)
- HARRIS, S. The Infrared Astronomical Satellite (IRAS) Mission. G. Neugebauer, H. J. Habing, R. van Duinen, H. H. Aumann, B. Baud, C. A. Beichman, D. A. Beintema, N. Boggess, P. E. Clegg, T. de Jong, J. P. Emerson, T. N. Gautier, F. C. Gillett, S. Harris, M. G. Hauser, J. R. Houck, R. E. Jennings, F. J. Low, P. L. Marsden, G. Miley, F. M. Olmon, S. R. Pottasch, E. Raimond, M.

- Rowan-Robinson, B. T. Soifer, R. G. Walker, P. R. Wesselius, and E. Young. **278**, L1, 29-C3 (1984)
- IRAS Observations of OH/IR Stars. F. M. Olmon, B. Baud, H. J. Habing, T. de Jong, S. Harris, and S. R. Pottasch. **278**, L41, 29-E13 (1984)
- The Formation of Solar Type Stars: IRAS Observations of the Dark Cloud Barnard 5. C. A. Beichman, R. E. Jennings, J. P. Emerson, B. Baud, S. Harris, M. Rowan-Robinson, H. H. Aumann, T. N. Gautier, F. C. Gillett, H. J. Habing, P. L. Marsden, G. Neugebauer, and E. Young. **278**, L45, 29-F3 (1984)
- IRAS Observations near Young Objects with Bipolar Outflows: L1551 and HH 46-47. J. P. Emerson, S. Harris, R. E. Jennings, C. A. Beichman, B. Baud, D. A. Beintema, P. L. Marsden, and P. R. Wesselius. **278**, L49, 29-F7 (1984)
- High-Sensitivity IRAS Observations of the Chamaeleon I Dark Cloud. B. Baud, E. Young, C. A. Beichman, D. A. Beintema, J. P. Emerson, H. J. Habing, S. Harris, R. E. Jennings, P. L. Marsden, and P. R. Wesselius. **278**, L53, 29-F12 (1984)
- IRAS Images of the Galactic Center. T. N. Gautier, M. G. Hauser, C. A. Beichman, F. J. Low, G. Neugebauer, M. Rowan-Robinson, H. H. Aumann, N. Boggess, J. P. Emerson, S. Harris, J. R. Houck, R. E. Jennings, and P. L. Marsden. **278**, L57, 29-G4 (1984)
- Infrared Emission from M31. H. J. Habing, G. Miley, E. Young, B. Baud, N. Boggess, P. E. Clegg, T. de Jong, S. Harris, E. Raimond, M. Rowan-Robinson, and B. T. Soifer. **278**, L59, 30-A1 (1984)
- A 25 Micron Component in 3C 390.3. G. Miley, G. Neugebauer, P. E. Clegg, S. Harris, M. Rowan-Robinson, B. T. Soifer, and E. Young. **278**, L79, 30-C14 (1984)
- IRAS Observations of Radio-Quiet and Radio-Loud Quasars. G. Neugebauer, B. T. Soifer, G. Miley, E. Young, C. A. Beichman, P. E. Clegg, H. J. Habing, S. Harris, F. J. Low, and M. Rowan-Robinson. **278**, L83, 30-D2 (1984)
- HARVEY, PAUL M. Infrared Observations of Dust Cloud Structure in Young R Associations: NGC 1333, S68, and NGC 7129. Paul M. Harvey, Bruce A. Wilking, and Marshall Joy. **278**, L56, 25-F8 (1984)
- Far-Infrared Studies of Herbig-Haro Objects and Their Exciting Stars. Martin Cohen, Paul M. Harvey, Richard D. Schwartz, and Bruce A. Wilking. **278**, 671, 33-C6 (1984)
- HAUSER, M. G. The Infrared Astronomical Satellite (IRAS) Mission. G. Neugebauer, H. J. Habing, R. van Duinen, H. H. Aumann, B. Baud, C. A. Beichman, D. A. Beintema, N. Boggess, P. E. Clegg, T. de Jong, J. P. Emerson, T. N. Gautier, F. C. Gillett, S. Harris, M. G. Hauser, J. R. Houck, R. E. Jennings, F. J. Low, P. L. Marsden, G. Miley, F. M. Olmon, S. R. Pottasch, E. Raimond, M. Rowan-Robinson, B. T. Soifer, R. G. Walker, P. R. Wesselius, and E. Young. **278**, L1, 29-C3 (1984)
- The IRAS Minisurvey. M. Rowan-Robinson, P. E. Clegg, C. A. Beichman, G. Neugebauer, B. T. Soifer, H. H. Aumann, D. A. Beintema, N. Boggess, J. P. Emerson, T. N. Gautier, F. C. Gillett, M. G. Hauser, J. R. Houck, F. J. Low, and R. G. Walker. **278**, L7, 29-C9 (1984)
- IRAS Observations of the Diffuse Infrared Background. M. G. Hauser, F. C. Gillett, F. J. Low, T. N. Gautier, C. A. Beichman, G. Neugebauer, H. H. Aumann, B. Baud, N. Boggess, J. P. Emerson, J. R. Houck, B. T. Soifer, and R. G. Walker. **278**, L15, 29-D4 (1984)
- Infrared Cirrus: New Components of the Extended Infrared Mission. F. J. Low, D. A. Beintema, T. N. Gautier, F. C. Gillett, C. A. Beichman, G. Neugebauer, E. Young, H. H. Aumann, N. Boggess, J. P. Emerson, H. J. Habing, M. G. Hauser, J. R. Houck, M. Rowan-Robinson, B. T. Soifer, R. G. Walker, and P. R. Wesselius. **278**, L19, 29-D8 (1984)
- IRAS Images of the Galactic Center. T. N. Gautier, M. G. Hauser, C. A. Beichman, F. J. Low, G. Neugebauer, M. Rowan-Robinson, H. H. Aumann, N. Boggess, J. P. Emerson, S. Harris, J. R. Houck, R. E. Jennings, and P. L. Marsden. **278**, L57, 29-G4 (1984)
- Unidentified Point Sources in the IRAS Minisurvey. J. R. Houck, B. T. Soifer, G. Neugebauer, C. A. Beichman, H. H. Aumann, P. E. Clegg, F. C. Gillett, H. J. Habing, M. G. Hauser, F. J. Low, G. Miley, M. Rowan-Robinson, and R. G. Walker. **278**, L63, 30-A7 (1984)
- Infrared Galaxies in the IRAS Minisurvey. B. T. Soifer, M. Rowan-Robinson, J. R. Houck, T. de Jong, G. Neugebauer, H. H. Aumann, C. A. Beichman, N. Boggess, P. E. Clegg, J. P. Emerson, F. C. Gillett, H. J. Habing, M. G. Hauser, F. J. Low, G. Miley, and E. Young. **278**, L71, 30-C5 (1984)
- HEBER, U. Spectrophotometry of Extreme Helium Stars: Ultraviolet Fluxes and Effective Temperatures. J. S. Drilling, D. Schönberner, U. Heber, and A. E. Lynas-Gray. **278**, 224, 26-D8 (1984)
- HEDLER, R. L. Millisecond Variability of Cygnus X-1. J. F. Meekins, K. S. Wood, R. L. Hedler, E. T. Byram, D. J. Yentis, T. A. Chubb, and H. Friedman. **278**, 288, 27-B6 (1984)
- HEISLER, J. Are Cosmologically Distant Objects Obscured by Dust? A Test Using Quasars. J. P. Ostriker and J. Heisler. **278**, 1, 24-A6 (1984)
- HENRY, J. PATRICK. Optical Observations of the BL Lacertae Object 2155-304 and Implications regarding the X-Ray Absorption Feature at 600-700 eV. Stuart Bowyer, Jean Brodie, John T. Clarke, and J. Patrick Henry. **278**, L103, 36-B7 (1984)
- HENRY, RICHARD B. C. Near-Infrared Spectrophotometry of Crab Nebula Filaments. Richard B. C. Henry, Gordon M. MacAlpine, and Robert P. Kirshner. **278**, 619, 32-F8 (1984)
- HERTZ, PAUL. The Einstein Galactic Plane Survey: Statistical Analysis of the Complete X-Ray Sample. Paul Hertz and Jonathan E. Grindlay. **278**, 137, 25-E3 (1984)
- HEWITT, J. N. 5 Gigahertz Structure and Optical Identifications of Weak Extragalactic Radio Sources. C. R. Lawrence, C. L. Bennett, J. N. Hewitt, and B. F. Burke. **278**, L95, 36-A12 (1984)
- HIROTA, EIZI. Laboratory Millimeter-Wave Spectrum of Iron Monoxide, FeO. Yasuki Endo, Shuji Saito, and Eizi Hirota. **278**, L131, 36-D13 (1984)
- HODGE, P. E. Two Multifrequency Observations of 3C 371. D. M. Worrall, J. J. Puschell, F. C. Bruhweiler, H. R. Miller, R. J. Rudy, W. H.-M. Ku, M. F. Aller, H. D. Aller, P. E. Hodge, K. Matthews, G. Neugebauer, B. T. Soifer, J. R. Webb, A. J. Pica, J. T. Pollock, A. G. Smith, and R. J. Leacock. **278**, 521, 31-E14 (1984)
- HOFFMAN, J. A. The HEAO 1 (A4) Catalog of High-Energy X-Ray Sources (Abstract of Paper in 1984 April Suppl.). A. M. Levine, F. L. Lang, W. H. G. Lewin, F. A. Primini, C. A. Dobson, J. P. Doty, J. A. Hoffman, S. K. Howe, A. Scheepmaker, W. A. Wheaton, J. L. Matteson, R. E. Rothschild, and L. E. Peiererson. **278**, 895, 35-E13 (1984)
- HOLM, ALBERT V. IUE Observations of Centaurus X-4 during the 1979 May Outburst. William P. Blair, John C. Raymond, A. K. Dupree, Chi-Chao Wu, Albert V. Holm, and Jean H. Swank. **278**, 270, 27-A1 (1984)
- HORANYI, M. The Friable Sponge Model of a Cometary Nucleus. M. Horanyi, T. I. Gombosi, T. E. Cravens, A. Korosmezey, K. Keskemety, A. F. Nagy, and K. Szego. **278**, 449, 28-G5 (1984)
- HOUCK, J. R. The Infrared Astronomical Satellite (IRAS) Mission. G. Neugebauer, H. J. Habing, R. van Duinen, H. H. Aumann, B. Baud, C. A. Beichman, D. A. Beintema, N. Boggess, P. E. Clegg, T. de Jong, J. P. Emerson, T. N. Gautier, F. C. Gillett, S. Harris, M. G. Hauser, J. R. Houck, R. E. Jennings, F. J. Low, P. L. Marsden, G. Miley, F. M. Olmon, S. R. Pottasch, E. Raimond, M. Rowan-Robinson, B. T. Soifer, R. G. Walker, P. R. Wesselius, and E. Young. **278**, L1, 29-C3 (1984)
- The IRAS Minisurvey. M. Rowan-Robinson, P. E. Clegg, C. A. Beichman, G. Neugebauer, B. T. Soifer, H. H. Aumann, D. A. Beintema, N. Boggess, J. P. Emerson, T. N. Gautier, F. C. Gillett, M. G. Hauser, J. R. Houck, F. J. Low, and R. G. Walker. **278**, L7, 29-C9 (1984)
- Observations of Comet IRAS-Araki-Alcock 1983d. R. G. Walker, H. H. Aumann, J. Davies, S. Green, T. de Jong, J. R. Houck, and B. T. Soifer. **278**, L11, 29-C14 (1984)
- IRAS Observations of the Diffuse Infrared Background. M. G. Hauser, F. C. Gillett, F. J. Low, T. N. Gautier, C. A. Beichman, G. Neugebauer, H. H. Aumann, B. Baud, N. Boggess, J. P. Emerson, J. R. Houck, B. T. Soifer, and R. G. Walker. **278**, L15, 29-D4 (1984)
- Infrared Cirrus: New Components of the Extended Infrared Mission. F. J. Low, D. A. Beintema, T. N. Gautier, F. C. Gillett, C. A. Beichman, G. Neugebauer, E. Young, H. H. Aumann, N. Boggess, J. P. Emerson, H. J. Habing, M. G. Hauser, J. R. Houck, M. Rowan-Robinson, B. T. Soifer, R. G. Walker, and P. R. Wesselius. **278**, L19, 29-D8 (1984)
- Discovery of a Shell around Alpha Lyrae. H. H. Aumann, F. C. Gillett, C. A. Beichman, T. de Jong, J. R. Houck, F. J. Low, G. Neugebauer, R. G. Walker, and P. R. Wesselius. **278**, L23, 29-D12 (1984)
- IRAS Spectra of Planetary Nebulae. S. R. Pottasch, D. A. Beintema, E. Raimond, B. Baud, R. van Duinen, H. J. Habing, J. R. Houck, T. de Jong, R. E. Jennings, F. M. Olmon, and P. R. Wesselius. **278**, L33, 29-E7 (1984)

- IRAS Images of the Galactic Center. T. N. Gautier, M. G. Hauser, C. A. Beichman, F. J. Low, G. Neugebauer, M. Rowan-Robinson, H. H. Aumann, N. Boggess, J. P. Emerson, S. Harris, J. R. Houck, R. E. Jennings, and P. L. Marsden. **278**, L57, 29-G4 (1984)
- Unidentified Point Sources in the IRAS Minisurvey. J. R. Houck, B. T. Soifer, G. Neugebauer, C. A. Beichman, H. H. Aumann, P. E. Clegg, F. C. Gillett, H. J. Habing, M. G. Hauser, F. J. Low, G. Miley, M. Rowan-Robinson, and R. G. Walker. **278**, L63, 30-A7 (1984)
- IRAS Observations of Shapley-Ames Galaxies. T. de Jong, P. E. Clegg, B. T. Soifer, M. Rowan-Robinson, H. J. Habing, J. R. Houck, H. H. Aumann, and E. Raimond. **278**, L67, 30-C1 (1984)
- Infrared Galaxies in the IRAS Minisurvey. B. T. Soifer, M. Rowan-Robinson, J. R. Houck, T. de Jong, G. Neugebauer, H. H. Aumann, C. A. Beichman, N. Boggess, P. E. Clegg, J. P. Emerson, F. C. Gillett, H. J. Habing, M. G. Hauser, F. J. Low, G. Miley, and E. Young. **278**, L71, 30-C5 (1984)
- HOWE, S. K. The HEAO 1 (A4) Catalog of High-Energy X-Ray Sources (Abstract of Paper in 1984 April Suppl.). A. M. Levine, F. L. Lang, W. H. G. Lewin, F. A. Primini, C. A. Dobson, J. P. Doty, J. A. Hoffman, S. K. Howe, A. Scheepmaker, W. A. Wheaton, J. L. Matteson, R. E. Rothschild, and L. E. Peterson. **278**, 895, 35-E13 (1984)
- HRIVNAK, B. J. A Search for Radial Velocity Variations in the Blue Stragglers of NGC 7789. L. L. Stryker and B. J. Hrivnak. **278**, 215, 26-C13 (1984)
- HUCHRA, JOHN. The Distances and Properties of a Sample of Sc I Galaxies. Gregory D. Bothun, Marc Aaronson, Bob Schommer, John Huchra, and Jeremy Mould. **278**, 475, 31-B9 (1984)
- HUGHES, V. A. Radio Observations of W Ursae Majoris Stars. V. A. Hughes and B. J. McLean. **278**, 716, 33-F10 (1984)
- HUMPHREYS, R. M. IUE and Ground-based Observations of the Hubble-Sandage Variables in M31 and M33. R. M. Humphreys, C. Blaha, S. D'Odorico, T. R. Gull, and P. Benvenuti. **278**, 124, 25-D2 (1984)
- IBEN, ICKO, JR. Thermal Evolution of Accreting Neutron Stars. Masayuki Y. Fujimoto, Tomoyuki Hanawa, Icko Iben, Jr., and M. B. Richardson. **278**, 813, 34-F13 (1984)
- ICHIMARU, SETSUO. Screening Potential Enhancement of Thermonuclear Reaction Rate due to Relativistic Degenerate Electrons in Dense Multi-ionic Plasmas. Setsuo Ichimaru and Kenichi Utsumi. **278**, 382, 28-B5 (1984)
- INGUSCIO, MASSIMO. The Direct Measurement of the $3^1P_0-3^1P_1$ Fine-Structure Interval and the g -Factor of Atomic Silicon by Laser Magnetic Resonance. Massimo Inguscio, K. M. Evenson, Virgilio Beltrán-López, and Eugenio Ley-Koo. **278**, L127, 36-D9 (1984)
- JACOBSON, A. S. HEAO 3 Observations of the Crab Pulsar. W. A. Mahoney, J. C. Ling, and A. S. Jacobson. **278**, 784, 34-D12 (1984)
- JANES, KENNETH A. The Population Structure of the Large Magellanic Cloud Bar. Eduardo Hardy, Roberto Buonanno, Carlo E. Corsi, Kenneth A. Janes, and Robert A. Schommer. **278**, 592, 32-D3 (1984)
- JENKINS, EDWARD B. High-Resolution IUE Observations of Interstellar Absorption Lines in the Vela Supernova Remnant. Edward B. Jenkins, George Wallerstein, and Joseph Silk. **278**, 649, 33-A12 (1984)
- JENNINGS, R. E. The Infrared Astronomical Satellite (IRAS) Mission. G. Neugebauer, H. J. Habing, R. van Duinen, H. H. Aumann, B. Baud, C. A. Beichman, D. A. Beintema, N. Boggess, P. E. Clegg, T. de Jong, J. P. Emerson, T. N. Gautier, F. C. Gillett, S. Harris, M. G. Hauser, J. R. Houck, R. E. Jennings, F. J. Low, P. L. Marsden, G. Miley, F. M. Olmon, S. R. Pottasch, E. Raimond, M. Rowan-Robinson, B. T. Soifer, R. G. Walker, P. R. Wesselius, and E. Young. **278**, L1, 29-C3 (1984)
- Far-Infrared Observations of the Crab Nebula. P. L. Marsden, F. C. Gillett, R. E. Jennings, J. P. Emerson, T. de Jong, and F. M. Olmon. **278**, L29, 29-E3 (1984)
- IRAS Spectra of Planetary Nebulae. S. R. Pottasch, D. A. Beintema, E. Raimond, B. Baud, R. van Duinen, H. J. Habing, J. R. Houck, T. de Jong, R. E. Jennings, F. M. Olmon, and P. R. Wesselius. **278**, L33, 29-E7 (1984)
- The Formation of Solar Type Stars: IRAS Observations of the Dark Cloud Barnard 5. C. A. Beichman, R. E. Jennings, J. P. Emerson, B. Baud, S. Harris, M. Rowan-Robinson, H. H. Aumann, T. N. Gautier, F. C. Gillett, H. J. Habing, P. L. Marsden, G. Neugebauer, and E. Young. **278**, L45, 29-F3 (1984)
- IRAS Observations near Young Objects with Bipolar Outflows: L1551 and HH 46-47. J. P. Emerson, S. Harris, R. E. Jennings, C. A. Beichman, B. Baud, D. A. Beintema, P. L. Marsden, and P. R. Wesselius. **278**, L49, 29-F7 (1984)
- High-Sensitivity IRAS Observations of the Chamaeleon I Dark Cloud. B. Baud, E. Young, C. A. Beichman, D. A. Beintema, J. P. Emerson, H. J. Habing, S. Harris, R. E. Jennings, P. L. Marsden, and P. R. Wesselius. **278**, L53, 29-F12 (1984)
- IRAS Images of the Galactic Center. T. N. Gautier, M. G. Hauser, C. A. Beichman, F. J. Low, G. Neugebauer, M. Rowan-Robinson, H. H. Aumann, N. Boggess, J. P. Emerson, S. Harris, J. R. Houck, R. E. Jennings, and P. L. Marsden. **278**, L57, 29-G4 (1984)
- JENSEN, KENNETH A. Boundary Layers in Cataclysmic Variables: The HEAO 1 X-Ray Constraints. Kenneth A. Jensen. **278**, 278, 27-A10 (1984)
- JEWELL, P. R. Observations and Analysis of Circumstellar Cyanoacetylene. P. R. Jewell and L. E. Snyder. **278**, 176, 26-A1 (1984)
- JOY, MARSHALL. Infrared Observations of Dust Cloud Structure in Young R Associations: NGC 1333, S68, and NGC 7129. Paul M. Harvey, Bruce A. Wilking, and Marshall Joy. **278**, 156, 25-F8 (1984)
- KAHN, S. M. Observations of Quasi-coherent Soft X-Ray Oscillations in U Geminorum and SS Cygni. F. A. Córdova, T. J. Chester, K. O. Mason, S. M. Kahn, and G. P. Garmire. **278**, 739, 34-A9 (1984)
- KAHN, STEVEN M. Photospheric Soft X-Ray Emission from Hot DA White Dwarfs. Steven M. Kahn, F. Wesemael, James Liebert, John C. Raymond, J. E. Steiner, and Harry L. Shipman. **278**, 255, 26-F11 (1984)
- Einstein Observations of the Cygnus Loop. William H.-M. Ku, Steven M. Kahn, Ryszard Pisarski, and Knox S. Long. **278**, 615, 32-E13 (1984)
- KALER, JAMES B. The O VI Nucleus of the Planetary Nebula M3-30. James B. Kaler and Richard A. Shaw. **278**, 195, 26-B6 (1984)
- KÄPPELER, F. The s-Process Branching at ^{151}Sm . H. Beer, F. Käppeler, K. Yokoi, and K. Takahashi. **278**, 388, 28-B11 (1984)
- KECSKEMETI, K. The Friable Sponge Model of a Cometary Nucleus. M. Horanyi, T. I. Gombosi, T. E. Cravens, A. Korosmezey, K. Kecskemeti, A. F. Nagy, and K. Szego. **278**, 449, 28-G5 (1984)
- KEMP, JAMES C. Induced Atomic Orientation, An Efficient Mechanism for Magnetic Circular Polarization. James C. Kemp, Joseph H. Macek, and Frederick W. Nehring. **278**, 863, 35-C9 (1984)
- KEPLER, S. O. The ZZ Ceti Star GD 385 Revisited. S. O. Kepler. **278**, 754, 34-B10 (1984)
- KINGSTON, A. E. Electron Excitation Rate Coefficients for Transitions from the $1s^2\ ^1S$ Ground State to the $1s2s\ ^1S$ and $1s2p\ ^1P^o$ Excited States of Helium. K. M. Aggarwal, A. E. Kingston, and M. R. C. McDowell. **278**, 874, 35-D6 (1984)
- KIRK, J. G. Self-consistent Models for Coulomb-heated X-Ray Pulsar Atmospheres. A. K. Harding, P. Mészáros, J. G. Kirk, and D. J. Galloway. **278**, 369, 28-A6 (1984)
- KIRSHNER, ROBERT P. Near-Infrared Spectrophotometry of Crab Nebula Filaments. Richard B. C. Henry, Gordon M. MacAlpine, and Robert P. Kirshner. **278**, 619, 32-F8 (1984)
- KODAIRA, K. On the Metallicity of Blue Horizontal-Branch Stars in M4 and NGC 6397. K. Kodaira and A. G. Davis Philip. **278**, 201, 26-B12 (1984)
- High-Dispersion Spectroscopic Investigation of Field Horizontal-Branch, High-Luminosity, and Main-Sequence Stars. K. Kodaira and A. G. Davis Philip. **278**, 208, 26-C6 (1984)
- KOROSMEZEY, A. The Friable Sponge Model of a Cometary Nucleus. M. Horanyi, T. I. Gombosi, T. E. Cravens, A. Korosmezey, K. Kecskemeti, A. F. Nagy, and K. Szego. **278**, 449, 28-G5 (1984)
- KOUVELIOTOU, C. Analysis of Solar Flare Gamma-Ray Events. C. Kouveliotou, R. A. Treumann, and M. Scholer. **278**, 420, 28-E1 (1984)
- KRIMIGIS, S. M. Estimate of Cosmic-Ray Latitudinal Gradient in 1981-1982. R. B. Decker, S. M. Krimigis, and D. Venkatesan. **278**, L119, 36-C7 (1984)
- KRISTIAN, JEROME. Stellar Populations in Local Group Dwarf Elliptical Galaxies. II. NGC 205. Jeremy Mould, Jerome Kristian, and G. S. Da Costa. **278**, 575, 32-B12 (1984)
- KRUPER, JOHN. A Sharp X-Ray Absorption Feature in the BL Lacertae Object PKS 2155-304. Claude R. Canizares and John Kruper. **278**, L99, 36-B2 (1984)
- KU, W. H.-M. Two Multifrequency Observations of 3C 371. D. M. Worrall, J. J. Puschell, F. C. Bruhweiler, H. R. Miller, R. J. Rudy,

- W. H.-M. Ku, M. F. Aller, H. D. Aller, P. E. Hodge, K. Matthews, G. Neugebauer, B. T. Soifer, J. R. Webb, A. J. Pica, J. T. Pollock, A. G. Smith, and R. J. Leacock. **278**, 521, 31-E14 (1984)
- KU, WILLIAM H.-M. *Einstein* Observations of the Cygnus Loop. William H.-M. Ku, Steven M. Kahn, Ryszard Pisarski, and Knox S. Long. **278**, 615, 32-E13 (1984)
- LAMB, F. K. Accretion by Magnetic Neutron Stars. II. Plasma Entry into the Magnetosphere via Diffusion, Polar Cusps, and Magnetic Field Reconnection. R. F. Elsner and F. K. Lamb. **278**, 326, 27-E4 (1984)
- LANG, F. L. The *HEAO 1* (A4) Catalog of High-Energy X-Ray Sources (Abstract of Paper in 1984 April Suppl.). A. M. Levine, F. L. Lang, W. H. G. Lewin, F. A. Primini, C. A. Dobson, J. P. Doty, J. A. Hoffman, S. K. Howe, A. Scheepmaker, W. A. Wheaton, J. L. Matteson, R. E. Rothschild, and L. E. Peterson. **278**, 895, 35-E13 (1984)
- LATHAM, DAVID W. The Baade-Wesselink Method and the Distances to RR Lyrae Stars. I. The Field Star VY Serpentis. Bruce W. Carney and David W. Latham. **278**, 241, 26-E11 (1984)
- LAWRENCE, C. R. 5 Gigahertz Structure and Optical Identifications of Weak Extragalactic Radio Sources. C. R. Lawrence, C. L. Bennett, J. N. Hewitt, and B. F. Burke. **278**, L95, 36-A12 (1984)
- LAZAREFF, BERNARD. Photoionized Stellar Wind Bubbles in a Cloudy Medium. Christopher F. McKee, Dave Van Buren, and Bernard Lazareff. **278**, L115, 36-C3 (1984)
- LEACOCK, R. J. Two Multifrequency Observations of 3C 371. D. M. Worrall, J. J. Puschell, F. C. Bruhweiler, H. R. Miller, R. J. Rudy, W. H.-M. Ku, M. F. Aller, H. D. Aller, P. E. Hodge, K. Matthews, G. Neugebauer, B. T. Soifer, J. R. Webb, A. J. Pica, J. T. Pollock, A. G. Smith, and R. J. Leacock. **278**, 521, 31-E14 (1984)
- LEBOFSKY, M. J. Narrow-Band Infrared Photometry of the Peculiar White Dwarf LHS 1126. M. J. Lebofsky and James Liebert. **278**, L111, 36-B13 (1984)
- LESTRADE, J. F. VLBI Observations of the RS Canum Venaticorum Binary Systems UX Arietis and HR 1099 at 1.65 GHz. R. L. Mutel, D. J. Doiron, J. F. Lestrade, and R. B. Phillips. **278**, 220, 26-D4 (1984)
- LEVINE, A. M. The *HEAO 1* (A4) Catalog of High-Energy X-Ray Sources (Abstract of Paper in 1984 April Suppl.). A. M. Levine, F. L. Lang, W. H. G. Lewin, F. A. Primini, C. A. Dobson, J. P. Doty, J. A. Hoffman, S. K. Howe, A. Scheepmaker, W. A. Wheaton, J. L. Matteson, R. E. Rothschild, and L. E. Peterson. **278**, 895, 35-E13 (1984)
- LEWIN, W. H. G. The *HEAO 1* (A4) Catalog of High-Energy X-Ray Sources (Abstract of Paper in 1984 April Suppl.). A. M. Levine, F. L. Lang, W. H. G. Lewin, F. A. Primini, C. A. Dobson, J. P. Doty, J. A. Hoffman, S. K. Howe, A. Scheepmaker, W. A. Wheaton, J. L. Matteson, R. E. Rothschild, and L. E. Peterson. **278**, 895, 35-E13 (1984)
- LEY-KOO, EUGENIO. The Direct Measurement of the $3^3P_0-3^3P_1$ Fine-Structure Interval and the g -Factor of Atomic Silicon by Laser Magnetic Resonance. Massimo Inguscio, K. M. Evenson, Virgilio Beltrán-López, and Eugenio Ley-Koo. **278**, L127, 36-D9 (1984)
- LIEBERT, JAMES. Photospheric Soft X-Ray Emission from Hot DA White Dwarfs. Steven M. Kahn, F. Wesemael, James Liebert, John C. Raymond, J. E. Steiner, and Harry L. Shipman. **278**, 255, 26-F11 (1984)
- Narrow-Band Infrared Photometry of the Peculiar White Dwarf LHS 1126. M. J. Lebofsky and James Liebert. **278**, L111, 36-B13 (1984)
- LINDBLOM, LEE. Limits on the Gravitational Redshift from Neutron Stars. Lee Lindblom. **278**, 364, 28-A1 (1984)
- LING, J. C. *HEAO 3* Observations of the Crab Pulsar. W. A. Mahoney, J. C. Ling, and A. S. Jacobson. **278**, 784, 34-D12 (1984)
- LOCKMAN, FELIX J. A Survey of the Latitude Structure of Galactic H I on Small Angular Scales (Abstract of Paper in 1984 April Suppl.). T. M. Bania and Felix J. Lockman. **278**, 895, 35-E13 (1984)
- LONG, KNOX S. *Einstein* Observations of the Cygnus Loop. William H.-M. Ku, Steven M. Kahn, Ryszard Pisarski, and Knox S. Long. **278**, 615, 32-E13 (1984)
- LOW, F. J. The *Infrared Astronomical Satellite* (IRAS) Mission. G. Neugebauer, H. J. Habing, R. van Duinen, H. H. Aumann, B. Baud, C. A. Beichman, D. A. Beintema, N. Boggess, P. E. Clegg, T. de Jong, J. P. Emerson, T. N. Gautier, F. C. Gillett, S. Harris, M. G. Hauser, J. R. Houck, R. E. Jennings, F. J. Low, P. L. Marsden, G. Miley, F. M. Olmon, S. R. Pottasch, E. Raimond, M. Rowan-Robinson, B. T. Soifer, R. G. Walker, P. R. Wesselius, and E. Young. **278**, L1, 29-C3 (1984)
- Marsden, G. Miley, F. M. Olmon, S. R. Pottasch, E. Raimond, M. Rowan-Robinson, B. T. Soifer, R. G. Walker, P. R. Wesselius, and E. Young. **278**, L1, 29-C3 (1984)
- The IRAS Minisurvey. M. Rowan-Robinson, P. E. Clegg, C. A. Beichman, G. Neugebauer, B. T. Soifer, H. H. Aumann, D. A. Beintema, N. Boggess, J. P. Emerson, T. N. Gautier, F. C. Gillett, M. G. Hauser, J. R. Houck, F. J. Low, and R. G. Walker. **278**, L7, 29-C9 (1984)
- IRAS Observations of the Diffuse Infrared Background. M. G. Hauser, F. C. Gillett, F. J. Low, T. N. Gautier, C. A. Beichman, G. Neugebauer, H. H. Aumann, B. Baud, N. Boggess, J. P. Emerson, J. R. Houck, B. T. Soifer, and R. G. Walker. **278**, L15, 29-D4 (1984)
- Infrared Cirrus: New Components of the Extended Infrared Mission. F. J. Low, D. A. Beintema, T. N. Gautier, F. C. Gillett, C. A. Beichman, G. Neugebauer, E. Young, H. H. Aumann, N. Boggess, J. P. Emerson, H. J. Habing, M. G. Hauser, J. R. Houck, M. Rowan-Robinson, B. T. Soifer, R. G. Walker, and P. R. Wesselius. **278**, L19, 29-D8 (1984)
- Discovery of a Shell around Alpha Lyrae. H. H. Aumann, F. C. Gillett, C. A. Beichman, T. de Jong, J. R. Houck, F. J. Low, G. Neugebauer, R. G. Walker, and P. R. Wesselius. **278**, L23, 29-D12 (1984)
- IRAS Images of the Galactic Center. T. N. Gautier, M. G. Hauser, C. A. Beichman, F. J. Low, G. Neugebauer, M. Rowan-Robinson, H. H. Aumann, N. Boggess, J. P. Emerson, S. Harris, J. R. Houck, R. E. Jennings, and P. L. Marsden. **278**, L57, 29-G4 (1984)
- Unidentified Point Sources in the IRAS Minisurvey. J. R. Houck, B. T. Soifer, G. Neugebauer, C. A. Beichman, H. H. Aumann, P. E. Clegg, F. C. Gillett, H. J. Habing, M. G. Hauser, F. J. Low, G. Miley, M. Rowan-Robinson, and R. G. Walker. **278**, L63, 30-A7 (1984)
- Infrared Galaxies in the IRAS Minisurvey. B. T. Soifer, M. Rowan-Robinson, J. R. Houck, T. de Jong, G. Neugebauer, H. H. Aumann, C. A. Beichman, N. Boggess, P. E. Clegg, J. P. Emerson, F. C. Gillett, H. J. Habing, M. G. Hauser, F. J. Low, G. Miley, and E. Young. **278**, L71, 30-C5 (1984)
- The Infrared Properties of Galaxy Clusters: IRAS Observations of the Hercules Cluster (Abell 2151). E. Young, B. T. Soifer, F. J. Low, G. Neugebauer, M. Rowan-Robinson, G. Miley, P. E. Clegg, T. de Jong, and T. N. Gautier. **278**, L75, 30-C9 (1984)
- IRAS Observations of Radio-Quiet and Radio-Loud Quasars. G. Neugebauer, B. T. Soifer, G. Miley, E. Young, C. A. Beichman, P. E. Clegg, H. J. Habing, S. Harris, F. J. Low, and M. Rowan-Robinson. **278**, L83, 30-D2 (1984)
- LUGGER, PHYLLIS M. The Bright End of the Color-Magnitude Relation for Early-Type Galaxies in Clusters. Phyllis M. Lugger. **278**, 51, 24-E6 (1984)
- LYNAS-GRAY, A. E. Spectrophotometry of Extreme Helium Stars: Ultraviolet Fluxes and Effective Temperatures. J. S. Drilling, D. Schönberner, U. Heber, and A. E. Lynas-Gray. **278**, 224, 26-D8 (1984)
- MACALPINE, GORDON M. Near-Infrared Spectrophotometry of Crab Nebula Filaments. Richard B. C. Henry, Gordon M. MacAlpine, and Robert P. Kirshner. **278**, 619, 32-F8 (1984)
- MACCACCARO, T. X-Ray Variability of Quasars. G. Zamorani, P. Giommi, T. Maccacaro, and H. Tananbaum. **278**, 28, 24-C11 (1984)
- MACEK, JOSEPH H. Induced Atomic Orientation, An Efficient Mechanism for Magnetic Circular Polarization. James C. Kemp, Joseph H. Macek, and Frederick W. Nehring. **278**, 863, 35-C9 (1984)
- MADORE, B. F. JHK Observations of Classical Cepheids (Abstract of Paper in 1984 April Suppl.). D. L. Welch, F. Wieland, C. W. McAlary, R. McGonagall, B. F. Madore, R. A. McLaren, and G. Neugebauer. **278**, 896, 35-E14 (1984)
- MAHONEY, W. A. *HEAO 3* Observations of the Crab Pulsar. W. A. Mahoney, J. C. Ling, and A. S. Jacobson. **278**, 784, 34-D12 (1984)
- MARSDEN, P. L. The *Infrared Astronomical Satellite* (IRAS) Mission. G. Neugebauer, H. J. Habing, R. van Duinen, H. H. Aumann, B. Baud, C. A. Beichman, D. A. Beintema, N. Boggess, P. E. Clegg, T. de Jong, J. P. Emerson, T. N. Gautier, F. C. Gillett, S. Harris, M. G. Hauser, J. R. Houck, R. E. Jennings, F. J. Low, P. L. Marsden, G. Miley, F. M. Olmon, S. R. Pottasch, E. Raimond, M. Rowan-Robinson, B. T. Soifer, R. G. Walker, P. R. Wesselius, and E. Young. **278**, L1, 29-C3 (1984)
- Far-Infrared Observations of the Crab Nebula. P. L. Marsden, F. C.

- Gillett, R. E. Jennings, J. P. Emerson, T. de Jong, and F. M. Olmon. **278**, L29, 29-E3 (1984)
- The Formation of Solar Type Stars: *IRAS* Observations of the Dark Cloud Barnard 5. C. A. Beichman, R. E. Jennings, J. P. Emerson, B. Baud, S. Harris, M. Rowan-Robinson, H. H. Aumann, T. N. Gautier, F. C. Gillett, H. J. Habing, P. L. Marsden, G. Neugebauer, and E. Young. **278**, L45, 29-F3 (1984)
- IRAS* Observations near Young Objects with Bipolar Outflows: L1551 and HH 46-47. J. P. Emerson, S. Harris, R. E. Jennings, C. A. Beichman, B. Baud, D. A. Beintema, P. L. Marsden, and P. R. Wesselius. **278**, L49, 29-F7 (1984)
- High-Sensitivity *IRAS* Observations of the Chamaeleon I Dark Cloud. B. Baud, E. Young, C. A. Beichman, D. A. Beintema, J. P. Emerson, H. J. Habing, S. Harris, R. E. Jennings, P. L. Marsden, and P. R. Wesselius. **278**, L53, 29-F12 (1984)
- IRAS* Images of the Galactic Center. T. N. Gautier, M. G. Hauser, C. A. Beichman, F. J. Low, G. Neugebauer, M. Rowan-Robinson, H. H. Aumann, N. Boggess, J. P. Emerson, S. Harris, J. R. Houck, R. E. Jennings, and P. L. Marsden. **278**, L57, 29-G4 (1984)
- MASI, S. Diffuse Galactic and Extragalactic Radiation in the Far-Infrared. P. de Bernardis, S. Masi, B. Melchiorri, F. Melchiorri, and G. Moreno. **278**, 150, 25-F2 (1984)
- MASON, K. O. Observations of Quasi-coherent Soft X-Ray Oscillations in U Geminorum and SS Cygni. F. A. Córdoba, T. J. Chester, K. O. Mason, S. M. Kahn, and G. P. Garmire. **278**, 739, 34-A9 (1984)
- MASSEY, PHILIP. Absolute Spectrophotometry of Wolf-Rayet Stars from 1200 to 7000 Å: A Cautionary Tale. Catharine D. Garmany, Philip Massey, and Peter S. Conti. **278**, 233, 26-E3 (1984)
- MASSI, M. Star Formation in the M8E Region. M. Simon, L. Cassar, M. Felli, J. Fischer, M. Massi, and D. Sanders. **278**, 170, 25-G8 (1984)
- MATTESON, J. L. The *HEAO 1* (A4) Catalog of High-Energy X-Ray Sources (Abstract of Paper in 1984 April Suppl.). A. M. Levine, F. L. Lang, W. H. G. Lewin, F. A. Primini, C. A. Dobson, J. P. Doty, J. A. Hoffman, S. K. Howe, A. Scheepmaker, W. A. Wheaton, J. L. Matteson, R. E. Rothschild, and L. E. Peterson. **278**, 895, 35-E13 (1984)
- MATTHEWS, K. Two Multifrequency Observations of 3C 371. D. M. Worrall, J. J. Puschell, F. C. Bruhweiler, H. R. Miller, R. J. Rudy, W. H.-M. Ku, M. F. Aller, H. D. Aller, P. E. Hodge, K. Matthews, G. Neugebauer, B. T. Soifer, J. R. Webb, A. J. Pica, J. T. Pollock, A. G. Smith, and R. J. Leacock. **278**, 521, 31-E14 (1984)
- MAXSON, C. W. Einstein Observations of X-Ray Emission from A Stars: Erratum. L. Golub, F. R. Harnden, C. W. Maxson, R. Rosner, G. S. Vaiana, Webster Cash, Jr., and Theodore P. Snow, Jr. **278**, 456, 28-G12 (1984) (Orig. paper in **271**, 264, 90-G11)
- MALARY, C. W. *JHK* Observations of Classical Cepheids (Abstract of Paper in 1984 April Suppl.). D. L. Welch, F. Wieland, C. W. McAlary, R. McGonegal, B. F. Madore, R. A. McLaren, and G. Neugebauer. **278**, 896, 35-E14 (1984)
- MCCABE, M. K. The Corona near the Time of the 1983 June 11 Total Solar Eclipse. D. G. Sime, R. R. Fisher, M. K. McCabe, and D. L. Mickey. **278**, L123, 36-C11 (1984)
- MCDOWELL, M. R. C. Electron Excitation Rate Coefficients for Transitions from the $1s^2\ ^1S$ Ground State to the $1s2s\ ^1S$ and $1s2p\ ^1P$ Excited States of Helium. K. M. Aggarwal, A. E. Kingston, and M. R. C. McDowell. **278**, 874, 35-D6 (1984)
- MCGONEGAL, R. *JHK* Observations of Classical Cepheids (Abstract of Paper in 1984 April Suppl.). D. L. Welch, F. Wieland, C. W. McAlary, R. McGonegal, B. F. Madore, R. A. McLaren, and G. Neugebauer. **278**, 896, 35-E14 (1984)
- MCKEE, CHRISTOPHER F. Photoionized Stellar Wind Bubbles in a Cloudy Medium. Christopher F. McKee, Dave Van Buren, and Bernard Lazareff. **278**, L115, 36-C3 (1984)
- MCLAREN, R. A. *JHK* Observations of Classical Cepheids (Abstract of Paper in 1984 April Suppl.). D. L. Welch, F. Wieland, C. W. McAlary, R. McGonegal, B. F. Madore, R. A. McLaren, and G. Neugebauer. **278**, 896, 35-E14 (1984)
- MCLEAN, B. J. Radio Observations of W Ursae Majoris Stars. V. A. Hughes and B. J. McLean. **278**, 716, 33-F10 (1984)
- MEEKINS, J. F. Millisecond Variability of Cygnus X-1. J. F. Meekins, K. S. Wood, R. L. Hedler, E. T. Byram, D. J. Yentis, T. A. Chubb, and H. Friedman. **278**, 288, 27-B6 (1984)
- MELCHIORRI, B. Diffuse Galactic and Extragalactic Radiation in the Far-Infrared. P. de Bernardis, S. Masi, B. Melchiorri, F. Melchiorri, and G. Moreno. **278**, 150, 25-F2 (1984)
- MELCHIORRI, F. Diffuse Galactic and Extragalactic Radiation in the Far-Infrared. P. de Bernardis, S. Masi, B. Melchiorri, F. Melchiorri, and G. Moreno. **278**, 150, 25-F2 (1984)
- MÉSZÁROS, P. Self-consistent Models for Coulomb-heated X-Ray Pulsar Atmospheres. A. K. Harding, P. Mészáros, J. G. Kirk, and D. J. Galloway. **278**, 369, 28-A6 (1984)
- MICKEY, D. L. The Corona near the Time of the 1983 June 11 Total Solar Eclipse. D. G. Sime, R. R. Fisher, M. K. McCabe, and D. L. Mickey. **278**, L123, 36-C11 (1984)
- MILEY, G. The Infrared Astronomical Satellite (*IRAS*) Mission. G. Neugebauer, H. J. Habing, R. van Duinen, H. H. Aumann, B. Baud, C. A. Beichman, D. A. Beintema, N. Boggess, P. E. Clegg, T. de Jong, J. P. Emerson, T. N. Gautier, F. C. Gillett, S. Harris, M. G. Hauser, J. R. Houck, R. E. Jennings, F. J. Low, P. L. Marsden, G. Miley, F. M. Olmon, S. R. Pottasch, E. Raimond, M. Rowan-Robinson, B. T. Soifer, R. G. Walker, P. R. Wesselius, and E. Young. **278**, L1, 29-C3 (1984)
- Infrared Emission from M31. H. J. Habing, G. Miley, E. Young, B. Baud, N. Boggess, P. E. Clegg, T. de Jong, S. Harris, E. Raimond, M. Rowan-Robinson, and B. T. Soifer. **278**, L59, 30-A1 (1984)
- Unidentified Point Sources in the *IRAS* Minisurvey. J. R. Houck, B. T. Soifer, G. Neugebauer, C. A. Beichman, H. H. Aumann, P. E. Clegg, F. C. Gillett, H. J. Habing, M. G. Hauser, F. J. Low, G. Miley, M. Rowan-Robinson, and R. G. Walker. **278**, L63, 30-A7 (1984)
- Infrared Galaxies in the *IRAS* Minisurvey. B. T. Soifer, M. Rowan-Robinson, J. R. Houck, T. de Jong, G. Neugebauer, H. H. Aumann, C. A. Beichman, N. Boggess, P. E. Clegg, J. P. Emerson, F. C. Gillett, H. J. Habing, M. G. Hauser, F. J. Low, G. Miley, and E. Young. **278**, L71, 30-C5 (1984)
- The Infrared Properties of Galaxy Clusters: *IRAS* Observations of the Hercules Cluster (Abell 2151). E. Young, B. T. Soifer, F. J. Low, G. Neugebauer, M. Rowan-Robinson, G. Miley, P. E. Clegg, T. de Jong, and T. N. Gautier. **278**, L75, 30-C9 (1984)
- A 25 Micron Component in 3C 390.3. G. Miley, G. Neugebauer, P. E. Clegg, S. Harris, M. Rowan-Robinson, B. T. Soifer, and E. Young. **278**, L79, 30-C14 (1984)
- IRAS* Observations of Radio-Quiet and Radio-Loud Quasars. G. Neugebauer, B. T. Soifer, G. Miley, E. Young, C. A. Beichman, P. E. Clegg, H. J. Habing, S. Harris, F. J. Low, and M. Rowan-Robinson. **278**, L83, 30-D2 (1984)
- MILLER, H. R. Two Multifrequency Observations of 3C 371. D. M. Worrall, J. J. Puschell, F. C. Bruhweiler, H. R. Miller, R. J. Rudy, W. H.-M. Ku, M. F. Aller, H. D. Aller, P. E. Hodge, K. Matthews, G. Neugebauer, B. T. Soifer, J. R. Webb, A. J. Pica, J. T. Pollock, A. G. Smith, and R. J. Leacock. **278**, 521, 31-E14 (1984)
- MOOS, H. W. *IUE* Observations of Longitudinal and Temporal Variations in the Jovian Auroral Emission. T. E. Skinner, S. T. Durrance, P. D. Feldman, and H. W. Moos. **278**, 441, 28-F11 (1984)
- MORENO, G. Diffuse Galactic and Extragalactic Radiation in the Far-Infrared. P. de Bernardis, S. Masi, B. Melchiorri, F. Melchiorri, and G. Moreno. **278**, 150, 25-F2 (1984)
- MORRIS, MARK. Bipolar Reflection Nebulae: Monte Carlo Simulations. F. Yusef-Zadeh, Mark Morris, and Richard L. White. **278**, 186, 26-A11 (1984)
- MORTON, DONALD C. The Absorption Line Profiles in Q1101-264. Robert F. Carswell, Donald C. Morton, Malcolm G. Smith, Alan N. Stockton, David A. Turnshek, and Ray J. Weymann. **278**, 486, 36-C6 (1984)
- MOULD, JEREMY. The Distances and Properties of a Sample of Sc I Galaxies. Gregory D. Bothun, Marc Aaronson, Bob Schommer, John Huchra, and Jeremy Mould. **278**, 475, 31-B9 (1984)
- Stellar Populations in Local Group Dwarf Elliptical Galaxies. II. NGC 205. Jeremy Mould, Jerome Kristian, and G. S. Da Costa. **278**, 575, 32-B12 (1984)
- MUCHMORE, DAVID. Diffusion in White Dwarf Stars. David Muchmore. **278**, 769, 34-C11 (1984)
- MUSHOTZKY, R. The Line Continuum Luminosity Ratio in Active Galactic Nuclei: Or, On the "Baldwin Effect". R. Mushotzky and G. J. Ferland. **278**, 558, 32-A9 (1984)
- MUTEL, R. L. VLBI Observations of the RS Canum Venaticorum Binary Systems UX Arietis and HR 1099 at 1.65 GHz. R. L. Mutel, D. J. Doiron, J. F. Lestrade, and R. B. Phillips. **278**, 220, 26-D4 (1984)

- NAGAI, FUKUO. Transient Behavior of Flare-associated Solar Wind. II. Gas Dynamics in a Nonradial Open Field Region. *Fukuo Nagai*. **278**, 841, 35-A13 (1984)
- NAGY, A. F. The Friable Sponge Model of a Cometary Nucleus. *M. Horanyi, T. I. Gombosi, T. E. Cravens, A. Korosmezey, K. Kecs-kemety, A. F. Nagy, and K. Szego*. **278**, 449, 28-G5 (1984)
- NARANAN, S. X-Ray Observations of X Persei. *M. C. Weisskopf, R. F. Elsner, W. Darbro, S. Naranan, V. J. Weisskopf, A. Williams, N. E. White, J. E. Grindlay, and P. G. Sutherland*. **278**, 711, 33-F5 (1984)
- NEHRING, FREDERICK W. Induced Atomic Orientation, An Efficient Mechanism for Magnetic Circular Polarization. *James C. Kemp, Joseph H. Macek, and Frederick W. Nehring*. **278**, 863, 35-C9 (1984)
- NEMEC, JAMES. The Problem of the Barium Stars. *Erika Böhm-Vitense, James Nemecek, and Charles Proffitt*. **278**, 726, 33-G6 (1984)
- NEUGEBAUER, G. Two Multifrequency Observations of 3C 371. *D. M. Worrall, J. J. Puschell, F. C. Bruhweiler, H. R. Miller, R. J. Rudy, W. H.-M. Ku, M. F. Aller, H. D. Aller, P. E. Hodge, K. Matthews, G. Neugebauer, B. T. Soifer, J. R. Webb, A. J. Pica, J. T. Pollock, A. G. Smith, and R. J. Leacock*. **278**, 521, 31-E14 (1984)
- JHK Observations of Classical Cepheids (Abstract of Paper in 1984 April Suppl.). *D. L. Welch, F. Wieland, C. W. McAlary, R. McGonegal, B. F. Madore, R. A. McLaren, and G. Neugebauer*. **278**, 896, 35-E14 (1984)
- The Infrared Astronomical Satellite (IRAS) Mission. *G. Neugebauer, H. J. Habing, R. van Duinen, H. H. Aumann, B. Baud, C. A. Beichman, D. A. Beintema, N. Boggess, P. E. Clegg, T. de Jong, J. P. Emerson, T. N. Gautier, F. C. Gillett, S. Harris, M. G. Hauser, J. R. Houck, R. E. Jennings, F. J. Low, P. L. Marsden, G. Miley, F. M. Olmon, S. R. Pottasch, E. Raimond, M. Rowan-Robinson, B. T. Soifer, R. G. Walker, P. R. Wesselius, and E. Young*. **278**, L1, 29-C3 (1984)
- The IRAS Minisurvey. *M. Rowan-Robinson, P. E. Clegg, C. A. Beichman, G. Neugebauer, B. T. Soifer, H. H. Aumann, D. A. Beintema, N. Boggess, J. P. Emerson, T. N. Gautier, F. C. Gillett, M. G. Hauser, J. R. Houck, F. J. Low, and R. G. Walker*. **278**, L7, 29-C9 (1984)
- IRAS Observations of the Diffuse Infrared Background. *M. G. Hauser, F. C. Gillett, F. J. Low, T. N. Gautier, C. A. Beichman, G. Neugebauer, H. H. Aumann, B. Baud, N. Boggess, J. P. Emerson, J. R. Houck, B. T. Soifer, and R. G. Walker*. **278**, L15, 29-D4 (1984)
- Infrared Cirrus: New Components of the Extended Infrared Mission. *F. J. Low, D. A. Beintema, T. N. Gautier, F. C. Gillett, C. A. Beichman, G. Neugebauer, E. Young, H. H. Aumann, N. Boggess, J. P. Emerson, H. J. Habing, M. G. Hauser, J. R. Houck, M. Rowan-Robinson, B. T. Soifer, R. G. Walker, and P. R. Wesselius*. **278**, L19, 29-D8 (1984)
- Discovery of a Shell around Alpha Lyrae. *H. H. Aumann, F. C. Gillett, C. A. Beichman, T. de Jong, J. R. Houck, F. J. Low, G. Neugebauer, R. G. Walker, and P. R. Wesselius*. **278**, L23, 29-D12 (1984)
- The Formation of Solar Type Stars: IRAS Observations of the Dark Cloud Barnard 5. *C. A. Beichman, R. E. Jennings, J. P. Emerson, B. Baud, S. Harris, M. Rowan-Robinson, H. H. Aumann, T. N. Gautier, F. C. Gillett, H. J. Habing, P. L. Marsden, G. Neugebauer, and E. Young*. **278**, L45, 29-F3 (1984)
- IRAS Images of the Galactic Center. *T. N. Gautier, M. G. Hauser, C. A. Beichman, F. J. Low, G. Neugebauer, M. Rowan-Robinson, H. H. Aumann, N. Boggess, J. P. Emerson, S. Harris, J. R. Houck, R. E. Jennings, and P. L. Marsden*. **278**, L57, 29-G4 (1984)
- Unidentified Point Sources in the IRAS Minisurvey. *J. R. Houck, B. T. Soifer, G. Neugebauer, C. A. Beichman, H. H. Aumann, P. E. Clegg, F. C. Gillett, H. J. Habing, M. G. Hauser, F. J. Low, G. Miley, M. Rowan-Robinson, and R. G. Walker*. **278**, L63, 30-A7 (1984)
- Infrared Galaxies in the IRAS Minisurvey. *B. T. Soifer, M. Rowan-Robinson, J. R. Houck, T. de Jong, G. Neugebauer, H. H. Aumann, C. A. Beichman, N. Boggess, P. E. Clegg, J. P. Emerson, F. C. Gillett, H. J. Habing, M. G. Hauser, F. J. Low, G. Miley, and E. Young*. **278**, L71, 30-C5 (1984)
- The Infrared Properties of Galaxy Clusters: IRAS Observations of the Hercules Cluster (Abell 2151). *E. Young, B. T. Soifer, F. J. Low, G. Neugebauer, M. Rowan-Robinson, G. Miley, P. E. Clegg, T. de Jong, and T. N. Gautier*. **278**, L75, 30-C9 (1984)
- A 25 Micron Component in 3C 390.3. *G. Miley, G. Neugebauer, P. E. Clegg, S. Harris, M. Rowan-Robinson, B. T. Soifer, and E. Young*. **278**, L79, 30-C14 (1984)
- IRAS Observations of Radio-Quiet and Radio-Loud Quasars. *G. Neugebauer, B. T. Soifer, G. Miley, E. Young, C. A. Beichman, P. E. Clegg, H. J. Habing, S. Harris, F. J. Low, and M. Rowan-Robinson*. **278**, L83, 30-D2 (1984)
- NICOLAS, K. R. HRTS II EUV Observations of a Solar Ephemeral Region. *Robert Roussel-Dupré, Jay Wrathall, K. R. Nicolas, J. D. F. Bartoe, and G. E. Brueckner*. **278**, 428, 28-E9 (1984)
- NULSEN, P. E. J. The Mass Profile and Gas Content of M87. *G. C. Stewart, C. R. Canizares, A. C. Fabian, and P. E. J. Nulsen*. **278**, 536, 31-G1 (1984)
- O'DEA, C. P. What Bends 3C 465? *J. A. Eilek, J. O. Burns, C. P. O'Dea, and F. N. Owen*. **278**, 37, 24-D6 (1984)
- O'DEA, CHRISTOPHER P. The 20 Year Spectral Evolution of the Radio Nucleus of NGC 1275. *Christopher P. O'Dea, William A. Dent, and Thomas J. Balonek*. **278**, 89, 25-A5 (1984)
- OLMON, F. M. The Infrared Astronomical Satellite (IRAS) Mission. *G. Neugebauer, H. J. Habing, R. van Duinen, H. H. Aumann, B. Baud, C. A. Beichman, D. A. Beintema, N. Boggess, P. E. Clegg, T. de Jong, J. P. Emerson, T. N. Gautier, F. C. Gillett, S. Harris, M. G. Hauser, J. R. Houck, R. E. Jennings, F. J. Low, P. L. Marsden, G. Miley, F. M. Olmon, S. R. Pottasch, E. Raimond, M. Rowan-Robinson, B. T. Soifer, R. G. Walker, P. R. Wesselius, and E. Young*. **278**, L1, 29-C3 (1984)
- Far-Infrared Observations of the Crab Nebula. *P. L. Marsden, F. C. Gillett, R. E. Jennings, J. P. Emerson, T. de Jong, and F. M. Olmon*. **278**, L29, 29-E3 (1984)
- IRAS Spectra of Planetary Nebulae. *S. R. Pottasch, D. A. Beintema, E. Raimond, B. Baud, R. van Duinen, H. J. Habing, J. R. Houck, T. de Jong, R. E. Jennings, F. M. Olmon, and P. R. Wesselius*. **278**, L33, 29-E7 (1984)
- IRAS Observations of Two Early-Type Pre-Main-Sequence Stars in the Association Chamaeleon I. *P. R. Wesselius, D. A. Beintema, and F. M. Olmon*. **278**, L37, 29-E10 (1984)
- IRAS Observations of OH/IR Stars. *F. M. Olmon, B. Baud, H. J. Habing, T. de Jong, S. Harris, and S. R. Pottasch*. **278**, L41, 29-E13 (1984)
- OOSTERLOO, T. A. Gravitational Imaging by Superclusters. *R. H. Sanders, T. S. van Albada, and T. A. Oosterloo*. **278**, L91, 36-A8 (1984)
- ORWIG, L. E. The High-Energy X-Ray Spectrum of Centaurus XR-3 Observed from OSO 8. *J. F. Dolan, C. J. Crannell, B. R. Dennis, K. J. Frost, and L. E. Orwig*. **278**, 266, 26-G8 (1984)
- Correlated Observations of Impulsive UV and Hard X-Ray Bursts in Solar Flares from the Solar Maximum Mission. *Chung-Chieh Cheng, Einar Tandberg-Hanssen, and L. E. Orwig*. **278**, 853, 35-B11 (1984)
- OSTRIKER, J. P. Are Cosmologically Distant Objects Obscured by Dust? A Test Using Quasars. *J. P. Ostriker and J. Heisler*. **278**, 1, 24-A6 (1984)
- OWEN, F. N. What Bends 3C 465? *J. A. Eilek, J. O. Burns, C. P. O'Dea, and F. N. Owen*. **278**, 37, 24-D6 (1984)
- PACIESAS, W. S. The Gamma-Ray Spectrum of Centaurus A: A High-Resolution Observation between 70 keV and 8 MeV. *N. Gehrels, T. L. Cline, B. J. Teegarden, W. S. Pacias, J. Tueller, Ph. Durochoux, and J. M. Hameury*. **278**, 112, 25-C4 (1984)
- PATTERSON, JOSEPH. The Evolution of Cataclysmic and Low-Mass X-Ray Binaries (Abstract of Paper in 1984 April Suppl.). *Joseph Patterson*. **278**, 894, 35-E12 (1984)
- PETERSON, L. E. The HEAO 1 (A4) Catalog of High-Energy X-Ray Sources (Abstract of Paper in 1984 April Suppl.). *A. M. Levine, F. L. Lang, W. H. G. Lewin, F. A. Primi, C. A. Dobson, J. P. Doty, J. A. Hoffman, S. K. Howe, A. Scheepmaker, W. A. Wheaton, J. L. Matteson, R. E. Rothschild, and L. E. Peterson*. **278**, 895, 35-E13 (1984)
- PETROV, YU. V. The Effect of Inelastic Neutron Acceleration by Isomeric Nuclei on the s-Process Nucleosynthesis. *Yu. V. Petrov and A. I. Shlyakhter*. **278**, 385, 28-B8 (1984)
- PHILIP, A. G. DAVIS. On the Metallicity of Blue Horizontal-Branch Stars in M4 and NGC 6397. *K. Kodaira and A. G. Davis Philip*. **278**, 201, 26-B12 (1984)
- High-Dispersion Spectroscopic Investigation of Field Horizontal-Branch, High-Luminosity, and Main-Sequence Stars. *K. Kodaira and A. G. Davis Philip*. **278**, 208, 26-C6 (1984)

- PHILLIPS, R. B. VLBI Observations of the RS Canum Venaticorum Binary Systems UX Arietis and HR 1099 at 1.65 GHz. *R. L. Mutel, D. J. Doiron, J. F. Lestrade, and R. B. Phillips*. **278**, 220, 26-D4 (1984)
- PICA, A. J. Two Multifrequency Observations of 3C 371. *D. M. Worrall, J. J. Puschell, F. C. Bruhweiler, H. R. Miller, R. J. Rudy, W. H.-M. Ku, M. F. Aller, H. D. Aller, P. E. Hodge, K. Matthews, G. Neugebauer, B. T. Soifer, J. R. Webb, A. J. Pica, J. T. Pollock, A. G. Smith, and R. J. Leacock*. **278**, 521, 31-E14 (1984)
- PINES, D. Vortex Creep and the Internal Temperature of Neutron Stars. *II. Vela Pulsar*. *M. A. Alpar, P. W. Anderson, D. Pines, and J. Shaham*. **278**, 791, 34-E5 (1984)
- PISARSKI, RYSZARD. Einstein Observations of the Cygnus Loop. *William H.-M. Ku, Steven M. Kahn, Ryszard Pisarski, and Knox S. Long*. **278**, 615, 32-E13 (1984)
- POLLOCK, J. T. Two Multifrequency Observations of 3C 371. *D. M. Worrall, J. J. Puschell, F. C. Bruhweiler, H. R. Miller, R. J. Rudy, W. H.-M. Ku, M. F. Aller, H. D. Aller, P. E. Hodge, K. Matthews, G. Neugebauer, B. T. Soifer, J. R. Webb, A. J. Pica, J. T. Pollock, A. G. Smith, and R. J. Leacock*. **278**, 521, 31-E14 (1984)
- POTTASCH, S. R. The Infrared Astronomical Satellite (IRAS) Mission. *G. Neugebauer, H. J. Habing, R. van Duinen, H. H. Aumann, B. Baud, C. A. Beichman, D. A. Beintema, N. Boggess, P. E. Clegg, T. de Jong, J. P. Emerson, T. N. Gautier, F. C. Gillett, S. Harris, M. G. Hauser, J. R. Houck, R. E. Jennings, F. J. Low, P. L. Marsden, G. Miley, F. M. Olmon, S. R. Pottasch, E. Raimond, M. Rowan-Robinson, B. T. Soifer, R. G. Walker, P. R. Wesselius, and E. Young*. **278**, L1, 29-C3 (1984)
- IRAS Spectra of Planetary Nebulae. *S. R. Pottasch, D. A. Beintema, E. Raimond, B. Baud, R. van Duinen, H. J. Habing, J. R. Houck, T. de Jong, R. E. Jennings, F. M. Olmon, and P. R. Wesselius*. **278**, L33, 29-E7 (1984)
- IRAS Observations of OH/IR Stars. *F. M. Olmon, B. Baud, H. J. Habing, T. de Jong, S. Harris, and S. R. Pottasch*. **278**, L41, 29-E13 (1984)
- PRIMINI, F. A. The HEAO 1 (A4) Catalog of High-Energy X-Ray Sources (Abstract of Paper in 1984 April Suppl.). *A. M. Levine, F. L. Lang, W. H. G. Lewin, F. A. Primini, C. A. Dobson, J. P. Doty, J. A. Hoffman, S. K. Howe, A. Scheepmaker, W. A. Wheaton, J. L. Matteson, R. E. Rothschild, and L. E. Peterson*. **278**, 895, 35-E13 (1984)
- PROFFITT, CHARLES. The Problem of the Barium Stars. *Erika Böhm-Vitense, James Nemec, and Charles Proffitt*. **278**, 726, 33-G6 (1984)
- PRYOR, CARLTON. Constraints on the Anisotropy of the Velocity Dispersion of the Coma Cluster. *Carlton Pryor and Margaret J. Geller*. **278**, 457, 31-A5 (1984)
- PUSCHELL, J. J. Two Multifrequency Observations of 3C 371. *D. M. Worrall, J. J. Puschell, F. C. Bruhweiler, H. R. Miller, R. J. Rudy, W. H.-M. Ku, M. F. Aller, H. D. Aller, P. E. Hodge, K. Matthews, G. Neugebauer, B. T. Soifer, J. R. Webb, A. J. Pica, J. T. Pollock, A. G. Smith, and R. J. Leacock*. **278**, 521, 31-E14 (1984)
- RAIMOND, E. The Infrared Astronomical Satellite (IRAS) Mission. *G. Neugebauer, H. J. Habing, R. van Duinen, H. H. Aumann, B. Baud, C. A. Beichman, D. A. Beintema, N. Boggess, P. E. Clegg, T. de Jong, J. P. Emerson, T. N. Gautier, F. C. Gillett, S. Harris, M. G. Hauser, J. R. Houck, R. E. Jennings, F. J. Low, P. L. Marsden, G. Miley, F. M. Olmon, S. R. Pottasch, E. Raimond, M. Rowan-Robinson, B. T. Soifer, R. G. Walker, P. R. Wesselius, and E. Young*. **278**, L1, 29-C3 (1984)
- IRAS Spectra of Planetary Nebulae. *S. R. Pottasch, D. A. Beintema, E. Raimond, B. Baud, R. van Duinen, H. J. Habing, J. R. Houck, T. de Jong, R. E. Jennings, F. M. Olmon, and P. R. Wesselius*. **278**, L33, 29-E7 (1984)
- Infrared Emission from M31. *H. J. Habing, G. Miley, E. Young, B. Baud, N. Boggess, P. E. Clegg, T. de Jong, S. Harris, E. Raimond, M. Rowan-Robinson, and B. T. Soifer*. **278**, L59, 30-A1 (1984)
- IRAS Observations of Shapley-Ames Galaxies. *T. de Jong, P. E. Clegg, B. T. Soifer, M. Rowan-Robinson, H. J. Habing, J. R. Houck, H. H. Aumann, and E. Raimond*. **278**, L67, 30-C1 (1984)
- RAYMOND, JOHN C. Photospheric Soft X-Ray Emission from Hot DA White Dwarfs. *Steven M. Kahn, F. Wesemael, James Liebert, John C. Raymond, J. E. Steiner, and Harry L. Shipman*. **278**, 255, 26-F11 (1984)
- IUE Observations of Centaurus X-4 during the 1979 May Outburst. *William P. Blair, John C. Raymond, A. K. Dupree, Chi-Chao Wu, Albert V. Holm, and Jean H. Swa*. **278**, 270, 27-A1 (1984)
- REMILLARD, RONALD A. SAS 3 Observations of Cygnus X-1: The Intensity Dips. *Ronald A. Remillard and Claude R. Canizares*. **278**, 761, 34-C3 (1984)
- REYNOLDS, S. P. Evolution of Pulsar-driven Supernova Remnants. *S. P. Reynolds and R. A. Chevalier*. **278**, 630, 32-G7 (1984)
- RICE, JOHN B. Asymmetries in the Spectral Lines of Procyon and κ Cancri. *John B. Rice and William H. Wehlau*. **278**, 721, 33-G1 (1984)
- RICHARDSON, M. B. Thermal Evolution of Accreting Neutron Stars. *Masayuki Y. Fujimoto, Tomoyuki Hanawa, Icko Iben, Jr., and M. B. Richardson*. **278**, 813, 34-F13 (1984)
- ROSNER, R. On the Topological Stability of Magnetostatic Equilibria. *K. C. Tsinganos, J. Distler, and R. Rosner*. **278**, 409, 28-D4 (1984)
- Einstein Observations of X-Ray Emission from A Stars: Erratum. *L. Golub, F. R. Harnden, C. W. Maxson, R. Rosner, G. S. Vaiana, Webster Cash, Jr., and Theodore P. Snow, Jr.* **278**, 456, 28-G12 (1984) (Orig. paper in **271**, 264, 90-G11)
- ROTHSCHILD, R. E. The HEAO 1 (A4) Catalog of High-Energy X-Ray Sources (Abstract of Paper in 1984 April Suppl.). *A. M. Levine, F. L. Lang, W. H. G. Lewin, F. A. Primini, C. A. Dobson, J. P. Doty, J. A. Hoffman, S. K. Howe, A. Scheepmaker, W. A. Wheaton, J. L. Matteson, R. E. Rothschild, and L. E. Peterson*. **278**, 895, 35-E13 (1984)
- ROUSSEL-DUPRÉ, ROBERT. HRTS II EUV Observations of a Solar Ephemeral Region. *Robert Roussel-Dupré, Jay Wrathall, K. R. Nicolas, J. D. F. Bartoe, and G. E. Brueckner*. **278**, 428, 28-E9 (1984)
- ROWAN-ROBINSON, M. The Infrared Astronomical Satellite (IRAS) Mission. *G. Neugebauer, H. J. Habing, R. van Duinen, H. H. Aumann, B. Baud, C. A. Beichman, D. A. Beintema, N. Boggess, P. E. Clegg, T. de Jong, J. P. Emerson, T. N. Gautier, F. C. Gillett, S. Harris, M. G. Hauser, J. R. Houck, R. E. Jennings, F. J. Low, P. L. Marsden, G. Miley, F. M. Olmon, S. R. Pottasch, E. Raimond, M. Rowan-Robinson, B. T. Soifer, R. G. Walker, P. R. Wesselius, and E. Young*. **278**, L1, 29-C3 (1984)
- The IRAS Minisurvey. *M. Rowan-Robinson, P. E. Clegg, C. A. Beichman, G. Neugebauer, B. T. Soifer, H. H. Aumann, D. A. Beintema, N. Boggess, J. P. Emerson, T. N. Gautier, F. C. Gillett, M. G. Hauser, J. R. Houck, F. J. Low, and R. G. Walker*. **278**, L7, 29-C9 (1984)
- Infrared Cirrus: New Components of the Extended Infrared Mission. *F. J. Low, D. A. Beintema, T. N. Gautier, F. C. Gillett, C. A. Beichman, G. Neugebauer, E. Young, H. H. Aumann, N. Boggess, J. P. Emerson, H. J. Habing, M. G. Hauser, J. R. Houck, M. Rowan-Robinson, B. T. Soifer, R. G. Walker, and P. R. Wesselius*. **278**, L19, 29-D8 (1984)
- The Formation of Solar Type Stars: IRAS Observations of the Dark Cloud Barnard 5. *C. A. Beichman, R. E. Jennings, J. P. Emerson, B. Baud, S. Harris, M. Rowan-Robinson, H. H. Aumann, T. N. Gautier, F. C. Gillett, H. J. Habing, P. L. Marsden, G. Neugebauer, and E. Young*. **278**, L45, 29-F3 (1984)
- IRAS Images of the Galactic Center. *T. N. Gautier, M. G. Hauser, C. A. Beichman, F. J. Low, G. Neugebauer, M. Rowan-Robinson, H. H. Aumann, N. Boggess, J. P. Emerson, S. Harris, J. R. Houck, R. E. Jennings, and P. L. Marsden*. **278**, L57, 29-G4 (1984)
- Infrared Emission from M31. *H. J. Habing, G. Miley, E. Young, B. Baud, N. Boggess, P. E. Clegg, T. de Jong, S. Harris, E. Raimond, M. Rowan-Robinson, and B. T. Soifer*. **278**, L59, 30-A1 (1984)
- Unidentified Point Sources in the IRAS Minisurvey. *J. R. Houck, B. T. Soifer, G. Neugebauer, C. A. Beichman, H. H. Aumann, P. E. Clegg, F. C. Gillett, H. J. Habing, M. G. Hauser, F. J. Low, G. Miley, M. Rowan-Robinson, and R. G. Walker*. **278**, L63, 30-A7 (1984)
- IRAS Observations of Shapley-Ames Galaxies. *T. de Jong, P. E. Clegg, B. T. Soifer, M. Rowan-Robinson, H. J. Habing, J. R. Houck, H. H. Aumann, and E. Raimond*. **278**, L67, 30-C1 (1984)
- Infrared Galaxies in the IRAS Minisurvey. *B. T. Soifer, M. Rowan-Robinson, J. R. Houck, T. de Jong, G. Neugebauer, H. H. Aumann, C. A. Beichman, N. Boggess, P. E. Clegg, J. P. Emerson, F. C. Gillett, H. J. Habing, M. G. Hauser, F. J. Low, G. Miley, and E. Young*. **278**, L71, 30-C5 (1984)
- The Infrared Properties of Galaxy Clusters: IRAS Observations of the Hercules Cluster (Abell 2151). *E. Young, B. T. Soifer, F. J. Low, G. Neugebauer, M. Rowan-Robinson, G. Miley, P. E. Clegg, T. de*

- Jong, and T. N. Gautier. **278**, L75, 30-C9 (1984)
 A 25 Micron Component in 3C 390.3. G. Miley, G. Neugebauer, P. E. Clegg, S. Harris, M. Rowan-Robinson, B. T. Soifer, and E. Young. **278**, L79, 30-C14 (1984)
- IRAS Observations of Radio-Quiet and Radio-Loud Quasars. G. Neugebauer, B. T. Soifer, G. Miley, E. Young, C. A. Beichman, P. E. Clegg, H. J. Habing, S. Harris, F. J. Low, and M. Rowan-Robinson. **278**, L83, 30-D2 (1984)
- RUDY, R. J. Two Multifrequency Observations of 3C 371. D. M. Worrall, J. J. Puschell, F. C. Bruhweiler, H. R. Miller, R. J. Rudy, W. H.-M. Ku, M. F. Aller, H. D. Aller, P. E. Hodge, K. Matthews, G. Neugebauer, B. T. Soifer, J. R. Webb, A. J. Pica, J. T. Pollock, A. G. Smith, and R. J. Leacock. **278**, 521, 31-E14 (1984)
- RUDY, RICHARD J. The Dusty, Luminous Broad-Line Radio Galaxy 3C 109. Richard J. Rudy, G. D. Schmidt, H. S. Stockman, and Alan T. Tokunaga. **278**, 530, 31-F9 (1984)
- SAITO, SHUJI. Laboratory Millimeter-Wave Spectrum of Iron Monoxide, FeO. Yasuki Endo, Shuji Saito, and Eizi Hirota. **278**, L131, 36-D13 (1984)
- SANDERS, D. Star Formation in the M8E Region. M. Simon, L. Cassar, M. Felli, J. Fischer, M. Massi, and D. Sanders. **278**, 170, 25-G8 (1984)
- SANDERS, R. H. Gravitational Imaging by Superclusters. R. H. Sanders, T. S. van Albada, and T. A. Oosterloo. **278**, L91, 36-A8 (1984)
- SCHEEPMER, A. The HEAO 1 (A4) Catalog of High-Energy X-Ray Sources (Abstract of Paper in 1984 April Suppl.). A. M. Levine, F. L. Lang, W. H. G. Lewin, F. A. Primini, C. A. Dobson, J. P. Doty, J. A. Hoffman, S. K. Howe, A. Scheepmaker, W. A. Wheaton, J. L. Matteson, R. E. Rothschild, and L. E. Peterson. **278**, 895, 35-E13 (1984)
- SCHMIDT, G. D. The Dusty, Luminous Broad-Line Radio Galaxy 3C 109. Richard J. Rudy, G. D. Schmidt, H. S. Stockman, and Alan T. Tokunaga. **278**, 530, 31-F9 (1984)
- SCHOLER, M. Analysis of Solar Flare Gamma-Ray Events. C. Kouveliotou, R. A. Treumann, and M. Scholer. **278**, 420, 28-E1 (1984)
- SCHOMMER, BOB. The Distances and Properties of a Sample of Sc I Galaxies. Gregory D. Bothun, Marc Aaronson, Bob Schommer, John Huchra, and Jeremy Mould. **278**, 475, 31-B9 (1984)
- SCHOMMER, ROBERT A. The Population Structure of the Large Magellanic Cloud Bar. Eduardo Hardy, Roberto Buonanno, Carlo E. Corsi, Kenneth A. Janes, and Robert A. Schommer. **278**, 592, 32-D3 (1984)
- SCHÖNBERNER, D. Spectrophotometry of Extreme Helium Stars: Ultraviolet Fluxes and Effective Temperatures. J. S. Drilling, D. Schönberner, U. Heber, and A. E. Lynas-Gray. **278**, 224, 26-D8 (1984)
- Effective Temperatures and Luminosities of Very Hot O Type Subdwarfs. D. Schönberner and J. S. Drilling. **278**, 702, 33-E9 (1984)
- SCHWARTZ, RICHARD D. Far-Infrared Studies of Herbig-Haro Objects and Their Exciting Stars. Martin Cohen, Paul M. Harvey, Richard D. Schwartz, and Bruce A. Wilking. **278**, 671, 33-C6 (1984)
- SCOTT, EUGENE HOWARD. Ambipolar Diffusion in Equilibrium Self-gravitating Gaseous Configurations. I. Plane-parallel Slabs. Eugene Howard Scott. **278**, 396, 28-C5 (1984)
- SHAHAM, J. Vortex Creep and the Internal Temperature of Neutron Stars. II. Vela Pulsar. M. A. Alpar, P. W. Anderson, D. Pines, and J. Shaham. **278**, 791, 34-E5 (1984)
- SHAPIRO, STUART L. Neutrino Emissivity of Interacting Quark Matter in Neutron Stars. II. Finite Neutrino Momentum Effects. Robert C. Duncan, Stuart L. Shapiro, and Ira Wasserman. **278**, 806, 34-F6 (1984)
- SHAW, RICHARD A. The O VI Nucleus of the Planetary Nebula M3-30. James B. Kaler and Richard A. Shaw. **278**, 195, 26-B6 (1984)
- SHIPMAN, HARRY L. Photospheric Soft X-Ray Emission from Hot DA White Dwarfs. Steven M. Kahn, F. Wesemael, James Liebert, John C. Raymond, J. E. Steiner, and Harry L. Shipman. **278**, 255, 26-F11 (1984)
- SHLYAKHTER, A. I. The Effect of Inelastic Neutron Acceleration by Isomeric Nuclei on the s-Process Nucleosynthesis. Yu. V. Petrov and A. I. Shlyakhter. **278**, 385, 28-B8 (1984)
- SILK, JOSEPH. High-Resolution IUE Observations of Interstellar Absorption Lines in the Vela Supernova Remnant. Edward B. Jenkins, George Wallerstein, and Joseph Silk. **278**, 649, 33-A12 (1984)
- SILVERGLATE, PETER R. Observations of Heavy Element Radio Recombination Lines from C II Regions. Peter R. Silverglate. **278**, 604, 32-E1 (1984)
- SIME, D. G. The Corona near the Time of the 1983 June 11 Total Solar Eclipse. D. G. Sime, R. R. Fisher, M. K. McCabe, and D. L. Mickey. **278**, L123, 36-C11 (1984)
- SIMON, M. Star Formation in the M8E Region. M. Simon, L. Cassar, M. Felli, J. Fischer, M. Massi, and D. Sanders. **278**, 170, 25-G8 (1984)
- SKINNER, T. E. IUE Observations of Longitudinal and Temporal Variations in the Jovian Auroral Emission. T. E. Skinner, S. T. Durrance, P. D. Feldman, and H. W. Moos. **278**, 441, 28-F11 (1984)
- SMITH, A. G. Two Multifrequency Observations of 3C 371. D. M. Worrall, J. J. Puschell, F. C. Bruhweiler, H. R. Miller, R. J. Rudy, W. H.-M. Ku, M. F. Aller, H. D. Aller, P. E. Hodge, K. Matthews, G. Neugebauer, B. T. Soifer, J. R. Webb, A. J. Pica, J. T. Pollock, A. G. Smith, and R. J. Leacock. **278**, 521, 31-E14 (1984)
- SMITH, MALCOLM G. The Absorption Line Profiles in Q1101-264. Robert F. Carswell, Donald C. Morton, Malcolm G. Smith, Alan N. Stockton, David A. Turnshek, and Ray J. Weymann. **278**, 486, 36-C6 (1984)
- SNOW, THEODORE P., JR. Einstein Observations of X-Ray Emission from A Stars: Erratum. L. Golub, F. R. Harnden, C. W. Maxson, R. Rosner, G. S. Vaiana, Webster Cash, Jr., and Theodore P. Snow, Jr. **278**, 456, 28-G12 (1984) (Orig. paper in **271**, 264, 90-G11)
- SNYDER, L. E. Observations and Analysis of Circumstellar Cyanoacetylene. P. R. Jewell and L. E. Snyder. **278**, 176, 26-A1 (1984)
- SOIFER, B. T. Two Multifrequency Observations of 3C 371. D. M. Worrall, J. J. Puschell, F. C. Bruhweiler, H. R. Miller, R. J. Rudy, W. H.-M. Ku, M. F. Aller, H. D. Aller, P. E. Hodge, K. Matthews, G. Neugebauer, B. T. Soifer, J. R. Webb, A. J. Pica, J. T. Pollock, A. G. Smith, and R. J. Leacock. **278**, 521, 31-E14 (1984)
- The Infrared Astronomical Satellite (IRAS) Mission. G. Neugebauer, H. J. Habing, R. van Duinen, H. H. Aumann, B. Baud, C. A. Beichman, D. A. Beintema, N. Boggess, P. E. Clegg, T. de Jong, J. P. Emerson, T. N. Gautier, F. C. Gillett, S. Harris, M. G. Hauser, J. R. Houck, R. E. Jennings, F. J. Low, P. L. Marsden, G. Miley, F. M. Olmon, S. R. Pottasch, E. Raimond, M. Rowan-Robinson, B. T. Soifer, R. G. Walker, P. R. Wesselius, and E. Young. **278**, L1, 29-C3 (1984)
- The IRAS Minisurvey. M. Rowan-Robinson, P. E. Clegg, C. A. Beichman, G. Neugebauer, B. T. Soifer, H. H. Aumann, D. A. Beintema, N. Boggess, J. P. Emerson, T. N. Gautier, F. C. Gillett, M. G. Hauser, J. R. Houck, F. J. Low, and R. G. Walker. **278**, L7, 29-C9 (1984)
- Observations of Comet IRAS-Araki-Alcock 1983d. R. G. Walker, H. H. Aumann, J. Davies, S. Green, T. de Jong, J. R. Houck, and B. T. Soifer. **278**, L11, 29-C14 (1984)
- IRAS Observations of the Diffuse Infrared Background. M. G. Hauser, F. C. Gillett, F. J. Low, T. N. Gautier, C. A. Beichman, G. Neugebauer, H. H. Aumann, B. Baud, N. Boggess, J. P. Emerson, J. R. Houck, B. T. Soifer, and R. G. Walker. **278**, L15, 29-D4 (1984)
- Infrared Cirrus: New Components of the Extended Infrared Mission. F. J. Low, D. A. Beintema, T. N. Gautier, F. C. Gillett, C. A. Beichman, G. Neugebauer, E. Young, H. H. Aumann, N. Boggess, J. P. Emerson, H. J. Habing, M. G. Hauser, J. R. Houck, M. Rowan-Robinson, B. T. Soifer, R. G. Walker, and P. R. Wesselius. **278**, L19, 29-D8 (1984)
- Infrared Emission from M31. H. J. Habing, G. Miley, E. Young, B. Baud, N. Boggess, P. E. Clegg, T. de Jong, S. Harris, E. Raimond, M. Rowan-Robinson, and B. T. Soifer. **278**, L59, 30-A1 (1984)
- Unidentified Point Sources in the IRAS Minisurvey. J. R. Houck, B. T. Soifer, G. Neugebauer, C. A. Beichman, H. H. Aumann, P. E. Clegg, F. C. Gillett, H. J. Habing, M. G. Hauser, F. J. Low, G. Miley, M. Rowan-Robinson, and R. G. Walker. **278**, L63, 30-A7 (1984)
- IRAS Observations of Shapley-Ames Galaxies. T. de Jong, P. E. Clegg, B. T. Soifer, M. Rowan-Robinson, H. J. Habing, J. R. Houck, H. H. Aumann, and E. Raimond. **278**, L67, 30-C1 (1984)
- Infrared Galaxies in the IRAS Minisurvey. B. T. Soifer, M. Rowan-Robinson, J. R. Houck, T. de Jong, G. Neugebauer, H. H. Aumann, C. A. Beichman, N. Boggess, P. E. Clegg, J. P. Emerson, F. C. Gillett, H. J. Habing, M. G. Hauser, F. J. Low, G. Miley, and E. Young. **278**, L71, 30-C5 (1984)
- The Infrared Properties of Galaxy Clusters: IRAS Observations of

- the Hercules Cluster (Abell 2151). *E. Young, B. T. Soifer, F. J. Low, G. Neugebauer, M. Rowan-Robinson, G. Miley, P. E. Clegg, T. de Jong, and T. N. Gautier.* **278**, L75, 30-C9 (1984)
- A 25 Micron Component in 3C 390.3. *G. Miley, G. Neugebauer, P. E. Clegg, S. Harris, M. Rowan-Robinson, B. T. Soifer, and E. Young.* **278**, L79, 30-C14 (1984)
- IRAS Observations of Radio-Quiet and Radio-Loud Quasars. *G. Neugebauer, B. T. Soifer, G. Miley, E. Young, C. A. Beichman, P. E. Clegg, H. J. Habing, S. Harris, F. J. Low, and M. Rowan-Robinson.* **278**, L83, 30-D2 (1984)
- STEINER, J. E. Photospheric Soft X-Ray Emission from Hot DA White Dwarfs. *Steven M. Kahn, F. Wesemael, James Liebert, John C. Raymond, J. E. Steiner, and Harry L. Shipman.* **278**, 255, 26-F11 (1984)
- STEWART, G. C. The Mass Profile and Gas Content of M87. *G. C. Stewart, C. R. Canizares, A. C. Fabian, and P. E. J. Nulsen.* **278**, 536, 31-G1 (1984)
- STOCKMAN, H. S. The Dusty, Luminous Broad-Line Radio Galaxy 3C 109. *Richard J. Rudy, G. D. Schmidt, H. S. Stockman, and Alan T. Tokunaga.* **278**, 530, 31-F9 (1984)
- STOCKTON, ALAN N. The Absorption Line Profiles in Q1101-264. *Robert F. Carswell, Donald C. Morton, Malcolm G. Smith, Alan N. Stockton, David A. Turnshek, and Ray J. Weymann.* **278**, 486, 36-C6 (1984)
- STROM, K. M. Massive Star Formation in NGC 6946. *K. DeGioia-Eastwood, G. L. Grasdale, S. E. Strom, and K. M. Strom.* **278**, 564, 32-B1 (1984)
- STROM, S. E. Massive Star Formation in NGC 6946. *K. DeGioia-Eastwood, G. L. Grasdale, S. E. Strom, and K. M. Strom.* **278**, 564, 32-B1 (1984)
- STRYKER, L. L. A Search for Radial Velocity Variations in the Blue Stragglers of NGC 7789. *L. L. Stryker and B. J. Hrivnak.* **278**, 215, 26-C13 (1984)
- SUTHERLAND, P. G. X-Ray Observations of X Persei. *M. C. Weisskopf, R. F. Elsner, W. Darbro, S. Naranan, V. J. Weisskopf, A. Williams, N. E. White, J. E. Grindlay, and P. G. Sutherland.* **278**, 711, 33-F5 (1984)
- SWANK, JEAN H. IUE Observations of Centaurus X-4 during the 1979 May Outburst. *William P. Blair, John C. Raymond, A. K. Dupree, Chi-Chao Wu, Albert V. Holm, and Jean H. Swank.* **278**, 270, 27-A1 (1984)
- SZEGO, K. The Friable Sponge Model of a Cometary Nucleus. *M. Horanyi, T. J. Gombosi, T. E. Cravens, A. Korosmezey, K. Keskemety, A. F. Nagy, and K. Szego.* **278**, 449, 28-G5 (1984)
- TAKAHASHI, K. The s-Process Branching at ^{151}Sm . *H. Beer, F. Käppler, K. Yokoi, and K. Takahashi.* **278**, 388, 28-B11 (1984)
- TANANBAUM, H. X-Ray Variability of Quasars. *G. Zamorani, P. Giommi, T. Maccacaro, and H. Tananbaum.* **278**, 28, 24-C11 (1984)
- TANDBERG-HANSEN, EINAR. Correlated Observations of Impulsive UV and Hard X-Ray Bursts in Solar Flares from the Solar Maximum Mission. *Chung-Chieh Cheng, Einar Tandberg-Hansen, and L. E. Orwig.* **278**, 853, 35-B11 (1984)
- TANG, K.-K. The Energy Spectrum of Electrons and Cosmic-Ray Confinement: A New Measurement and Its Interpretation. *K.-K. Tang.* **278**, 881, 35-D13 (1984)
- TEEGARDEN, B. J. The Gamma-Ray Spectrum of Centaurus A: A High-Resolution Observation between 70 keV and 8 MeV. *N. Gehrels, T. L. Cline, B. J. Teegarden, W. S. Paciesas, J. Tueller, Ph. Durouchoux, and J. M. Hameury.* **278**, 112, 25-C4 (1984)
- TOKUNAGA, ALAN T. The Dusty, Luminous Broad-Line Radio Galaxy 3C 109. *Richard J. Rudy, G. D. Schmidt, H. S. Stockman, and Alan T. Tokunaga.* **278**, 530, 31-F9 (1984)
- TORBETT, MICHAEL V. Hydrodynamic Ejection of Bipolar Flows from Objects Undergoing Disk Accretion: T Tauri Stars, Massive Pre-Main-Sequence Objects, and Cataclysmic Variables. *Michael V. Torbett.* **278**, 318, 27-D10 (1984)
- TREUMANN, R. A. Analysis of Solar Flare Gamma-Ray Events. *C. Kouveliotou, R. A. Treumann, and M. Scholer.* **278**, 420, 28-E1 (1984)
- TSINGANOS, K. C. On the Topological Stability of Magnetostatic Equilibria. *K. C. Tsinganos, J. Distler, and R. Rosner.* **278**, 409, 28-D4 (1984)
- TUELLER, J. The Gamma-Ray Spectrum of Centaurus A: A High-Resolution Observation between 70 keV and 8 MeV. *N. Gehrels, T. L. Cline, B. J. Teegarden, W. S. Paciesas, J. Tueller, Ph. Durouchoux, and J. M. Hameury.* **278**, 112, 25-C4 (1984)
- TURNESHEK, DAVID A. The Absorption Line Profiles in Q1101-264. *Robert F. Carswell, Donald C. Morton, Malcolm G. Smith, Alan N. Stockton, David A. Turnshek, and Ray J. Weymann.* **278**, 486, 36-C6 (1984)
- New Results on the Formation of Broad Emission Lines in QSOs. *David A. Turnshek.* **278**, L87, 36-A4 (1984)
- ULVESTAD, JAMES S. Radio Structures of Seyfert Galaxies. V. A Flux-Limited Sample of Markarian Galaxies. *James S. Ulvestad and A. S. Wilson.* **278**, 544, 31-G9 (1984)
- UTSUMI, KENICHI. Screening Potential Enhancement of Thermonuclear Reaction Rate due to Relativistic Degenerate Electrons in Dense Multi-ionic Plasmas. *Settsuo Ichimaru and Kenichi Utsumi.* **278**, 382, 28-B5 (1984)
- VAIANA, G. S. Einstein Observations of X-Ray Emission from A Stars: Erratum. *L. Golub, F. R. Harnden, C. W. Maxson, R. Rosner, G. S. Vaiana, Webster Cash, Jr., and Theodore P. Snow, Jr.* **278**, 456, 28-G12 (1984) (Orig. paper in **271**, 264, 90-G11)
- VAN ALBADA, T. S. Gravitational Imaging by Superclusters. *R. H. Sanders, T. S. van Albada, and T. A. Oosterloo.* **278**, L91, 36-A8 (1984)
- VAN BUREN, DAVE. Photoionized Stellar Wind Bubbles in a Cloudy Medium. *Christopher F. McKee, Dave Van Buren, and Bernard Lazareff.* **278**, L115, 36-C3 (1984)
- VANDENBERG, DON A. Theoretical Zero-Age Main Sequences Applied to the Pleiades, Praesepe, and Hyades Star Clusters. *Don A. Vandenberg and Terry J. Bridges.* **278**, 679, 33-C14 (1984)
- VAN DER KRUIT, P. C. The Vertical Velocity Dispersion of the Stars in the Disks of Two Spiral Galaxies. *P. C. van der Kruit and K. C. Freeman.* **278**, 81, 24-G11 (1984)
- VAN DUINEN, R. The Infrared Astronomical Satellite (IRAS) Mission. *G. Neugebauer, H. J. Habing, R. van Duinen, H. H. Aumann, B. Baud, C. A. Beichman, D. A. Beintema, N. Boggess, P. E. Clegg, T. de Jong, J. P. Emerson, T. N. Gautier, F. C. Gillett, S. Harris, M. G. Hauser, J. R. Houck, R. E. Jennings, F. J. Low, P. L. Marsden, G. Miley, F. M. Olmon, S. R. Pottasch, E. Raimond, M. Rowan-Robinson, B. T. Soifer, R. G. Walker, P. R. Wesselius, and E. Young.* **278**, L1, 29-C3 (1984)
- IRAS Spectra of Planetary Nebulae. *S. R. Pottasch, D. A. Beintema, E. Raimond, B. Baud, R. van Duinen, H. J. Habing, J. R. Houck, T. de Jong, R. E. Jennings, F. M. Olmon, and P. R. Wesselius.* **278**, L33, 29-E7 (1984)
- VENKATESAN, D. Estimate of Cosmic-Ray Latitudinal Gradient in 1981-1982. *R. B. Decker, S. M. Krimigis, and D. Venkatesan.* **278**, L119, 36-C7 (1984)
- WAGONER, ROBERT V. Gravitational Radiation from Accreting Neutron Stars. *Robert V. Wagoner.* **278**, 345, 27-F9 (1984)
- WALKER, R. G. The Infrared Astronomical Satellite (IRAS) Mission. *G. Neugebauer, H. J. Habing, R. van Duinen, H. H. Aumann, B. Baud, C. A. Beichman, D. A. Beintema, N. Boggess, P. E. Clegg, T. de Jong, J. P. Emerson, T. N. Gautier, F. C. Gillett, S. Harris, M. G. Hauser, J. R. Houck, R. E. Jennings, F. J. Low, P. L. Marsden, G. Miley, F. M. Olmon, S. R. Pottasch, E. Raimond, M. Rowan-Robinson, B. T. Soifer, R. G. Walker, P. R. Wesselius, and E. Young.* **278**, L1, 29-C3 (1984)
- The IRAS Minisurvey. *M. Rowan-Robinson, P. E. Clegg, C. A. Beichman, G. Neugebauer, B. T. Soifer, H. H. Aumann, D. A. Beintema, N. Boggess, J. P. Emerson, T. N. Gautier, F. C. Gillett, M. G. Hauser, J. R. Houck, F. J. Low, and R. G. Walker.* **278**, L7, 29-C9 (1984)
- Observations of Comet IRAS-Araki-Alcock 1983d. *R. G. Walker, H. H. Aumann, J. Davies, S. Green, T. de Jong, J. R. Houck, and B. T. Soifer.* **278**, L11, 29-C14 (1984)
- IRAS Observations of the Diffuse Infrared Background. *M. G. Hauser, F. C. Gillett, F. J. Low, T. N. Gautier, C. A. Beichman, G. Neugebauer, H. H. Aumann, B. Baud, N. Boggess, J. P. Emerson, J. R. Houck, B. T. Soifer, and R. G. Walker.* **278**, L15, 29-D4 (1984)
- Infrared Cirrus: New Components of the Extended Infrared Mission. *F. J. Low, D. A. Beintema, T. N. Gautier, F. C. Gillett, C. A. Beichman, G. Neugebauer, E. Young, H. H. Aumann, N. Boggess, J. P. Emerson, H. J. Habing, M. G. Hauser, J. R. Houck, M. Rowan-Robinson, B. T. Soifer, R. G. Walker, and P. R. Wesselius.* **278**, L19, 29-D8 (1984)
- Discovery of a Shell around Alpha Lyrae. *H. H. Aumann, F. C.*

- Gillett, C. A. Beichman, T. de Jong, J. R. Houck, F. J. Low, G. Neugebauer, R. G. Walker, and P. R. Wesselius. **278**, L23, 29-D12 (1984)
- Unidentified Point Sources in the IRAS Minisurvey. J. R. Houck, B. T. Soifer, G. Neugebauer, C. A. Beichman, H. H. Aumann, P. E. Clegg, F. C. Gillett, H. J. Habing, M. G. Hauser, F. J. Low, G. Miley, M. Rowan-Robinson, and R. G. Walker. **278**, L63, 30-A7 (1984)
- WALLERSTEIN, GEORGE. High-Resolution IUE Observations of Interstellar Absorption Lines in the Vela Supernova Remnant. Edward B. Jenkins, George Wallerstein, and Joseph Silk. **278**, 649, 33-A12 (1984)
- Did the First Metals in Our Galaxy Come from Virgo Cluster Supernovae? George Wallerstein. **278**, 663, 33-B12 (1984)
- WASSERMAN, IRA. Neutrino Emissivity of Interacting Quark Matter in Neutron Stars. II. Finite Neutrino Momentum Effects. Robert C. Duncan, Stuart L. Shapiro, and Ira Wasserman. **278**, 806, 34-F6 (1984)
- WEBB, J. R. Two Multifrequency Observations of 3C 371. D. M. Worrall, J. J. Puschell, F. C. Bruhweiler, H. R. Miller, R. J. Rudy, W. H.-M. Ku, M. F. Aller, H. D. Aller, P. E. Hodge, K. Matthews, G. Neugebauer, B. T. Soifer, J. R. Webb, A. J. Pica, J. T. Pollock, A. G. Smith, and R. J. Leacock. **278**, 521, 31-E14 (1984)
- WEHINGER, P. A. Host Galaxies of Quasars and Their Association with Galaxy Clusters. T. Gehren, J. Fried, P. A. Wehinger, and S. Wyckoff. **278**, 11, 24-B2 (1984)
- WEHLAU, WILLIAM H. Asymmetries in the Spectral Lines of Procyon and κ Cancri. John B. Rice and William H. Wehlau. **278**, 721, 33-G1 (1984)
- WEISSKOPF, M. C. X-Ray Observations of X Persei. M. C. Weisskopf, R. F. Elsner, W. Darbro, S. Naranan, V. J. Weisskopf, A. Williams, N. E. White, J. E. Grindlay, and P. G. Sutherland. **278**, 711, 33-F5 (1984)
- WEISSKOPF, V. J. X-Ray Observations of X Persei. M. C. Weisskopf, R. F. Elsner, W. Darbro, S. Naranan, V. J. Weisskopf, A. Williams, N. E. White, J. E. Grindlay, and P. G. Sutherland. **278**, 711, 33-F5 (1984)
- WELCH, D. L. JHK Observations of Classical Cepheids (Abstract of Paper in 1984 April Suppl.). D. L. Welch, F. Wieland, C. W. McAlary, R. McGonegal, B. F. Madore, R. A. McLaren, and G. Neugebauer. **278**, 896, 35-E14 (1984)
- WESEMAEL, F. Photospheric Soft X-Ray Emission from Hot DA White Dwarfs. Steven M. Kahn, F. Wesemael, James Liebert, John C. Raymond, J. E. Steiner, and Harry L. Shipman. **278**, 255, 26-F11 (1984)
- WESSELIUS, P. R. The Infrared Astronomical Satellite (IRAS) Mission. G. Neugebauer, H. J. Habing, R. van Duinen, H. H. Aumann, B. Baud, C. A. Beichman, D. A. Beintema, N. Boggess, P. E. Clegg, T. de Jong, J. P. Emerson, T. N. Gautier, F. C. Gillett, S. Harris, M. G. Hauser, J. R. Houck, R. E. Jennings, F. J. Low, P. L. Marsden, G. Miley, F. M. Olmon, S. R. Pottasch, E. Raimond, M. Rowan-Robinson, B. T. Soifer, R. G. Walker, P. R. Wesselius, and E. Young. **278**, L1, 29-C3 (1984)
- Infrared Cirrus: New Components of the Extended Infrared Mission. F. J. Low, D. A. Beintema, T. N. Gautier, F. C. Gillett, C. A. Beichman, G. Neugebauer, E. Young, H. H. Aumann, N. Boggess, J. P. Emerson, H. J. Habing, M. G. Hauser, J. R. Houck, M. Rowan-Robinson, B. T. Soifer, R. G. Walker, and P. R. Wesselius. **278**, L19, 29-D8 (1984)
- Discovery of a Shell around Alpha Lyrae. H. H. Aumann, F. C. Gillett, C. A. Beichman, T. de Jong, J. R. Houck, F. J. Low, G. Neugebauer, R. G. Walker, and P. R. Wesselius. **278**, L23, 29-D12 (1984)
- IRAS Spectra of Planetary Nebulae. S. R. Pottasch, D. A. Beintema, E. Raimond, B. Baud, R. van Duinen, H. J. Habing, J. R. Houck, T. de Jong, R. E. Jennings, F. M. Olmon, and P. R. Wesselius. **278**, L33, 29-E7 (1984)
- IRAS Observations of Two Early-Type Pre-Main-Sequence Stars in the Association Chamaeleon I. P. R. Wesselius, D. A. Beintema, and F. M. Olmon. **278**, L37, 29-E10 (1984)
- IRAS Observations near Young Objects with Bipolar Outflows: L1551 and HH 46-47. J. P. Emerson, S. Harris, R. E. Jennings, C. A. Beichman, B. Baud, D. A. Beintema, P. L. Marsden, and P. R. Wesselius. **278**, L49, 29-F7 (1984)
- High-Sensitivity IRAS Observations of the Chamaeleon I Dark Cloud. B. Baud, E. Young, C. A. Beichman, D. A. Beintema, J. P. Emerson, H. J. Habing, S. Harris, R. E. Jennings, P. L. Marsden, and P. R. Wesselius. **278**, L53, 29-F12 (1984)
- WEYMANN, RAY J. The Absorption Line Profiles in Q1101-264. Robert F. Carswell, Donald C. Morton, Malcolm G. Smith, Alan N. Stockton, David A. Turnshek, and Ray J. Weymann. **278**, 486, 36-C6 (1984)
- WHEATON, W. A. The HEAO 1 (A4) Catalog of High-Energy X-Ray Sources (Abstract of Paper in 1984 April Suppl.). A. M. Levine, F. L. Lang, W. H. G. Lewin, F. A. Primini, C. A. Dobson, J. P. Doty, J. A. Hoffman, S. K. Howe, A. Scheepmaker, W. A. Wheaton, J. L. Matteson, R. E. Rothschild, and L. E. Peterson. **278**, 895, 35-E13 (1984)
- WHITE, N. E. X-Ray Observations of X Persei. M. C. Weisskopf, R. F. Elsner, W. Darbro, S. Naranan, V. J. Weisskopf, A. Williams, N. E. White, J. E. Grindlay, and P. G. Sutherland. **278**, 711, 33-F5 (1984)
- WHITE, RICHARD L. Bipolar Reflection Nebulae: Monte Carlo Simulations. F. Yusef-Zadeh, Mark Morris, and Richard L. White. **278**, 186, 26-A11 (1984)
- WHITMORE, BRADLEY C. An Objective Classification System for Spiral Galaxies. I. The Two Dominant Dimensions. Bradley C. Whitmore. **278**, 61, 24-F3 (1984)
- WHITNEY, CHARLES A. Departures from Thermal Equilibrium in Expanding Stars. Charles A. Whitney. **278**, 310, 27-D2 (1984)
- WIELAND, F. JHK Observations of Classical Cepheids (Abstract of Paper in 1984 April Suppl.). D. L. Welch, F. Wieland, C. W. McAlary, R. McGonegal, B. F. Madore, R. A. McLaren, and G. Neugebauer. **278**, 896, 35-E14 (1984)
- WILKING, BRUCE A. Infrared Observations of Dust Cloud Structure in Young R Associations: NGC 1333, S68, and NGC 7129. Paul M. Harvey, Bruce A. Wilking, and Marshall Joy. **278**, 156, 25-F8 (1984)
- Far-Infrared Studies of Herbig-Haro Objects and Their Exciting Stars. Martin Cohen, Paul M. Harvey, Richard D. Schwartz, and Bruce A. Wilking. **278**, 617, 33-C6 (1984)
- WILLIAMS, A. X-Ray Observations of X Persei. M. C. Weisskopf, R. F. Elsner, W. Darbro, S. Naranan, V. J. Weisskopf, A. Williams, N. E. White, J. E. Grindlay, and P. G. Sutherland. **278**, 711, 33-F5 (1984)
- WILSON, A. S. Radio Structures of Seyfert Galaxies. V. A Flux-Limited Sample of Markarian Galaxies. James S. Ulvestad and A. S. Wilson. **278**, 544, 31-G9 (1984)
- WOOD, K. S. Millisecond Variability of Cygnus X-1. J. F. Meekins, K. S. Wood, R. L. Hedler, E. T. Byram, D. J. Yentis, T. A. Chubb, and H. Friedman. **278**, 288, 27-B6 (1984)
- WORLEY, CHARLES E. Duplicity of the "Supermassive" Object R136a. Charles E. Worley. **278**, L109, 36-B12 (1984)
- WORRALL, D. M. Two Multifrequency Observations of 3C 371. D. M. Worrall, J. J. Puschell, F. C. Bruhweiler, H. R. Miller, R. J. Rudy, W. H.-M. Ku, M. F. Aller, H. D. Aller, P. E. Hodge, K. Matthews, G. Neugebauer, B. T. Soifer, J. R. Webb, A. J. Pica, J. T. Pollock, A. G. Smith, and R. J. Leacock. **278**, 521, 31-E14 (1984)
- WRATHALL, JAY. HRTS II EUV Observations of a Solar Ephemeral Region. Robert Roussel-Dupré, Jay Wrathall, K. R. Nicolas, J. D. F. Bartoe, and G. E. Brueckner. **278**, 428, 28-E9 (1984)
- WU, CHI-CHAO. IUE Observations of Centaurus X-4 during the 1979 May Outburst. William P. Blair, John C. Raymond, A. K. Dupree, Chi-Chao Wu, Albert V. Holm, and Jean H. Swank. **278**, 270, 27-A1 (1984)
- WYCKOFF, S. Host Galaxies of Quasars and Their Association with Galaxy Clusters. T. Gehren, J. Fried, P. A. Wehinger, and S. Wyckoff. **278**, 11, 24-B2 (1984)
- YABUSHITA, S. On Galaxy Interactions during Violent Relaxation of Clusters. A. J. Allen and S. Yabushita. **278**, 468, 31-B2 (1984)
- YAHIEL, R. Z. On the Mechanism of Decelerating the Gas Infalling onto Magnetized Neutron Stars. A. Braun and R. Z. Yahiel. **278**, 349, 27-F13 (1984)
- YEE, H. K. C. An Imaging Survey of Fields around Quasars. I. A Catalog (Abstract of Paper in 1984 April Suppl.). Richard F. Green and H. K. C. Yee. **278**, 895, 35-E13 (1984)
- YENTIS, D. J. Millisecond Variability of Cygnus X-1. J. F. Meekins, K. S. Wood, R. L. Hedler, E. T. Byram, D. J. Yentis, T. A. Chubb, and H. Friedman. **278**, 288, 27-B6 (1984)
- YOKOI, K. The s-Process Branching at ^{151}Sm . H. Beer, F. Käppeler, K. Yokoi, and K. Takahashi. **278**, 388, 28-B11 (1984)
- YOUNG, E. The Infrared Astronomical Satellite (IRAS) Mission. G.

- Neugebauer, H. J. Habing, R. van Duinen, H. H. Aumann, B. Baud, C. A. Beichman, D. A. Beintema, N. Boggess, P. E. Clegg, T. de Jong, J. P. Emerson, T. N. Gautier, F. C. Gillett, S. Harris, M. G. Hauser, J. R. Houck, R. E. Jennings, F. J. Low, P. L. Marsden, G. Miley, F. M. Olmon, S. R. Pottasch, E. Raimond, M. Rowan-Robinson, B. T. Soifer, R. G. Walker, P. R. Wesselius, and E. Young. **278**, L1, 29-C3 (1984)
- Infrared Cirrus: New Components of the Extended Infrared Mission. F. J. Low, D. A. Beintema, T. N. Gautier, F. C. Gillett, C. A. Beichman, G. Neugebauer, E. Young, H. H. Aumann, N. Boggess, J. P. Emerson, H. J. Habing, M. G. Hauser, J. R. Houck, M. Rowan-Robinson, B. T. Soifer, R. G. Walker, and P. R. Wesselius. **278**, L19, 29-D8 (1984)
- The Formation of Solar Type Stars: IRAS Observations of the Dark Cloud Barnard 5. C. A. Beichman, R. E. Jennings, J. P. Emerson, B. Baud, S. Harris, M. Rowan-Robinson, H. H. Aumann, T. N. Gautier, F. C. Gillett, H. J. Habing, P. L. Marsden, G. Neugebauer, and E. Young. **278**, L45, 29-F3 (1984)
- High-Sensitivity IRAS Observations of the Chamaeleon I Dark Cloud. B. Baud, E. Young, C. A. Beichman, D. A. Beintema, J. P. Emerson, H. J. Habing, S. Harris, R. E. Jennings, P. L. Marsden, and P. R. Wesselius. **278**, L53, 29-F12 (1984)
- Infrared Emission from M31. H. J. Habing, G. Miley, E. Young, B. Baud, N. Boggess, P. E. Clegg, T. de Jong, S. Harris, E. Raimond, M. Rowan-Robinson, and B. T. Soifer. **278**, L59, 30-A1 (1984)
- Infrared Galaxies in the IRAS Minisurvey. B. T. Soifer, M. Rowan-Robinson, J. R. Houck, T. de Jong, G. Neugebauer, H. H. Aumann, C. A. Beichman, N. Boggess, P. E. Clegg, J. P. Emerson, F. C. Gillett, H. J. Habing, M. G. Hauser, F. J. Low, G. Miley, and E. Young. **278**, L71, 30-C5 (1984)
- The Infrared Properties of Galaxy Clusters: IRAS Observations of the Hercules Cluster (Abell 2151). E. Young, B. T. Soifer, F. J. Low, G. Neugebauer, M. Rowan-Robinson, G. Miley, P. E. Clegg, T. de Jong, and T. N. Gautier. **278**, L75, 30-C9 (1984)
- A 25 Micron Component in 3C 390.3. G. Miley, G. Neugebauer, P. E. Clegg, S. Harris, M. Rowan-Robinson, B. T. Soifer, and E. Young. **278**, L79, 30-C14 (1984)
- IRAS Observations of Radio-Quiet and Radio-Loud Quasars. G. Neugebauer, B. T. Soifer, G. Miley, E. Young, C. A. Beichman, P. E. Clegg, H. J. Habing, S. Harris, F. J. Low, and M. Rowan-Robinson. **278**, L83, 30-D2 (1984)
- YUSEF-ZADEH, F. Bipolar Reflection Nebulae: Monte Carlo Simulations. F. Yusef-Zadeh, Mark Morris, and Richard L. White. **278**, 186, 26-A11 (1984)
- ZAMORANI, G. X-Ray Variability of Quasars. G. Zamorani, P. Giommi, T. Maccacaro, and H. Tananbaum. **278**, 28, 24-C11 (1984)

